University of Tuzla
Faculty of Economics

ICEI

8th **Scientific Conference with International Participation**
"ECONOMY OF INTEGRATION" ICEI 2023
SUSTAINABLE ECONOMY AND TOURISM
TOWARDS JOINING THE EUROPEAN UNION

CONFERENCE PROCEEDINGS

Tuzla, December 7th-8th, 2023

8th Scientific Conference with International Participation
"Economy of Integration"

ICEI 2023

SUSTAINABLE ECONOMY AND TOURISM TOWARDS JOINING THE EUROPEAN UNION

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Faculty of Economics
7th – 8th December, 2023
Tuzla, Bosnia and Herzegovina

8TH INTERNATIONAL
SCIENTIFIC
CONFERENCE
"ECONOMY OF INTEGRATION"

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Predgovor

Ekonomski fakultet Univerziteta u Tuzli na dvogodišnjoj osnovi organizuje konferenciju pod nazivom "Ekonomija integracija" (ICEI). Ova konferencija je dobro etablirana i ima regionalni karakter, a Fakultet je organizuje u saradnji sa koorganizatorima iz Hrvatske, Slovenije, Crne Gore, Srbije i Sjeverne Makedonije. Uspješna saradnja Ekonomskog fakulteta u Tuzli sa ovim visokoškolskim institucijama pruža brojne mogućnosti za unapređenje obrazovnog procesa i naučno-istraživačkog rada, te omogućava bolje integrisanje Univerziteta u evropski prostor visokog obrazovanja.

Na prvoj ICEI konferenciji održanoj 2009. godine, eksperti iz regiona Jugoistočne Evrope raspravljali su o temi "Kako upravljati u vrijeme krize", pružajući praktične savjete i strategije za upravljanje kriznim situacijama. Druga konferencija posvećena je temi "Izazovi i perspektivne integracija zemalja Jugoistočne Evrope", doprinoseći boljem razumijevanju i unapređenju integracijskih procesa u regionu. Treća konferencija fokusirala se na temu "Znanjem od recesije ka prosperitetu", naglašavajući važnost obrazovanja i inovacija kao ključnih faktora za ekonomski oporavak i rast. Četvrta konferencija obradila je temu "Izazovi ekonomija u kriznom okruženju", pružajući analize i preporuke za prevazilaženje ekonomskih izazova u nestabilnim vremenima. Peta konferencija raspravljala je o "Ulozi ekonomske misli u savremenom okruženju", ističući značaj ekonomske teorije i prakse u oblikovanju savremenih ekonomskih politika. Šesta konferencija pod nazivom "Emigracije i konkurentnost zemalja Jugoistočne Evrope" pružila je uvid u migracione trendove i njihov uticaj na regionalnu konkurentnost, predlažući mjere za poboljšanje ekonomske atraktivnosti regiona. Sedma konferencija iz 2021. godine, pod nazivom "Ekonomski odgovor i oporavak u odnosu na krizu uzrokovanu pandemijom Covid-19", omogućila je istraživačima, praktičarima i naučnicima da razmijene iskustva i diskutuju o ekonomskim strategijama za oporavak od pandemije, čime je doprinosila formulisanju efikasnih politika za postpandemijski period.

Osma internacionalna naučna konferencija "Ekonomija integracija" – ICEI 2023, održana je 7-8. decembra 2023. godine u Hotelu Mellain u Tuzli, na temu „Održiva ekonomija i turizam na putu ka pridruživanju Evropskoj Uniji". Ova konferencija imala je za cilj da se na multidisciplinarnoj i međunarodnoj razini istraži, raspravi i predstavi kako održiva ekonomija i turizam mogu doprinijeti procesu pridruživanja Bosne i Hercegovine i ostalih zemalja Jugoistočne Evrope Evropskoj Uniji.Fokusirajući se na inovativne pristupe u bankarstvu, energetici, turizmu, digitalizaciji i osiguranju, konferencija je težila kreiranju platforme za razmjenu znanja, iskustava i najboljih praksi. Ova razmjena omogućila je učesnicima da razviju nove ideje i strategije koje će biti korisne ne samo za Bosnu i Hercegovinu, već i za širu regiju u procesu integracije u Evropsku Uniju.Promovirajući održivi razvoj i socioekonomsku inkluziju, konferencija je pružila uvide i preporuke za unapređenje ekonomske stabilnosti i konkurentnosti. Na taj način, ICEI 2023 je doprinijela jačanju kapaciteta i spremnosti zemalja Jugoistočne Evrope za uspešno pridruživanje Evropskoj Uniji.

Ekonomski fakultet Univerziteta u Tuzli je Osmu internacionalnu naučnu konferenciju ICEI 2023 realizovao u saradnji sa šest ekonomskih fakulteta iz regije, uključujući Ekonomski fakultet u Osijeku, Sveučilište Josipa Jurja Strossmayera iz Hrvatske, Ekonomsko-poslovnu fakultetu Univerze v Mariboru iz Slovenije, Beogradsku bankarsku akademiju - Fakultet za bankarstvo, osiguranje i finansije iz Beograda, Srbiju, Ekonomski fakultet u Podgorici iz Crne Gore, Ekonomski fakultet Prilep, Univerzitet "Sveti Kliment Ohridski" iz Makedonije te Fakultet za hotelijerstvo i turizam Vrnjačka Banja, Univerzitet u Kragujevcu iz Srbije. Centralna tema Osme internacionalne naučne konferencije, „Održiva ekonomija i turizam na putu ka pridruživanju Evropskoj Uniji", obrađena je kroz devetnaest tematskih područja koja

obuhvataju navažnije aspekte održivog razvoja i integracije.Tematska područja uključuju: slobodno kretanje roba, ljudi i kapitala; socijalnu politiku i zapošljavanje; transevropske mreže; unapređenje poslovnog okruženja; poduzetništvo i industrijsku politiku; ekonomsku i monetarnu politiku; nauku i istraživanje; obrazovanje i kulturu; ESG standarde i zelenu ekonomiju; evropske fondove i projektni menadžment; održive finansije; računovodstvo održivosti i nefinansijsko izvještavanje; računovodstvo okoliša i održivi razvoj turizma; pokazatelje održivog razvoja turizma i metodologije mjerenja; destinacijski menadžment i konkurentnost održivog turizma; marketing, brending i kreiranje iskustva u turizmu; digitalnu transformaciju poslovanja i primjenu tehnologija u turizmu; ruralni razvoj i posebne oblike turizma; te inkluzivni turizam i pristupačnost. Ova multidisciplinarna i međunarodna konferencija pružila je platformu za razmjenu znanja, iskustava i najboljih praksi, s ciljem razvijanja novih ideja i strategija korisnih za Bosnu i Hercegovinu i širu regiju u procesu integracije u Evropsku Uniju, promovirajući održivi razvoj i socioekonomsku inkluziju.

Osma internacionalna naučna konferencija ICEI 2023 realizovana je u formi panel sesija, uključujući Plenarnu sesiju – Sesiju dekana, Specijalnu sesiju pod nazivom "Umjetna inteligencija u obrazovanju i istraživanju", Naučno-istraživačke sesije, Studentsku sesiju pod naslovom "Kretanje kroz haos: Upravljanje projektima u doba start-up-a", te Biznis forum koji je obuhvatio pet panela sa preko 25 panelista.

Centralni dio konferencije predstavlja Plenarna sesija, nazvana i Sesija dekana.Po prvi put, od kada se organizuje Internacionalna naučna konferencija "Ekonomija integracija" – ICEI, na centralnom panelu su u ulogama moderatora i panelista bili dekani šest ekonomskih fakulteta. U ulozi moderatora bila je prof. dr. sci. Meldina Kokorović Jukan, dekan Ekonomskog fakulteta u Tuzli, dok su panelisti bili prof. dr. sci. Boris Crnković, dekan Ekonomskog fakulteta Osijek, prof. dr. sci. Zoran Grubišić, dekan Beogradske bankarske akademije, prof. dr. sci. Drago Cvijanović, dekan Fakulteta za hotelijerstvo i turizam Vrnjačka Banja, prof. dr. Mirela Kljajić-Dervić, dekan Ekonomskog fakulteta Univerziteta u Bihaću, i prof. dr. sci. Igor Živko, dekan Ekonomskog fakulteta Sveučilišta u Mostaru. Ova sesija nije bila samo puko nabrajanje tema; ona je predstavljala priču ekonomista o putovanju Jugoistočne Evrope prema Evropskoj Uniji, o prepletenosti ekonomske teorije i prakse, te o izazovima i prilikama koje stoje pred zemljama regije. U fokusu su bili ekonomski modeli održivog razvoja, strategije održivog turizma, integracija EU tržišta, ekonomski uticaj EU fondova, digitalizacija, obrazovanje, uloga privatnog sektora, pravne i institucionalne reforme, upravljanje prirodnim resursima te socioekonomska inkluzija. Razmatranje ekonomskih modela održivog razvoja otvorilo je put ka razumijevanju kako zemlje Zapadnog Balkana mogu usvojiti prakse koje su istovremeno ekološki održive i ekonomski efikasne. Istraživanje strategija održivog turizma otvorilo je novu stranicu u knjizi regionalnog razvoja, ističući kako turizam može biti motor ekonomskog rasta, a istovremeno čuvar prirodnih i kulturnih bogatstava.

Druga sesija konferencije, Specijalna sesija pod nazivom "Umjetna inteligencija u obrazovanju i istraživanju", pružila je značajna očekivanja i koristi za buduće i afirmisane istraživače i profesore. Sesiju je moderirala prof. dr. sc. Jasmina Okičić Džindo s Ekonomskog fakulteta u Tuzli, dok su panelisti bili istaknuti profesori i istraživači, uključujući Mislava Malenicu, predsjednika udruge CroAI i osnivača i direktora Mindsmithsa iz Zagreba, prof. dr. sci. Elvisa Ahmetovića s Tehnološkog fakulteta Univerziteta u Tuzli, prof. dr. sci. Amilu Pilav-Velić s Ekonomskog fakulteta Univerziteta u Sarajevu, prof. dr. sci. Sabinu Đonlagić Alibegović s Ekonomskog fakulteta Univerziteta u Tuzli, dr. sci. Marinu Stanić s Ekonomskog fakulteta Osijek, i mr. sci. Tanju Madžarević, direktoricu inžinjeringa u Virgin Pulse. Ova sesija bila je prilika za razmjenu znanja i iskustava o najnovijim trendovima i primjeni vještačke inteligencije u različitim oblastima istraživanja i nauke. Učesnici su mogli istražiti kako AI transformiše sektor istraživanja i nauke, te razmatrati mogućnosti i izazove koje ova tehnologija donosi. Diskusija je također pružila priliku za

umrežavanje i suradnju među istraživačima, što može dovesti do novih inovativnih projekata i istraživanja u oblasti vještačke inteligencije.

Treća panel sesija konferencije ICEI 2023, pod nazivom Naučno-istraživačke sesije, istraživala je različite aspekte ekonomije i menadžmenta, doprinoseći temi "Održiva ekonomija i turizam na putu ka pridruživanju Evropskoj Uniji". Naučno-istraživačka Sesija 1: Finansije i finansijska politika obuhvatila je radove Milana Raičevića i Milijane Novović Burić o potencijalu za razvoj zelenog osiguranja; Filipa Taskovskog o makroekonomskim determinantama državnog duga; Radojka Lukića i Emire Kozarević o efikasnosti banaka u Srbiji; Džafera Alibegovića, Lejle Dedović i Nejre Hadžiahmetović o upravljanju obrtnim kapitalom i profitabilnosti; Nikole Papca, Anele Čolak i Branimira Skoke o kvalitetu korporativnog upravljanja; te Sabine Hodžić i Tanje Fatur Šikić o efikasnosti izdataka za zaštitu okoliša. Mirnesa Baraković Nurikić je istraživala indeks zelenog rasta i finansijsku inkluziju, dok su Kadrija Hodžić, Emira Kozarević i Muhamed Ibrić analizirali zelenu ukupnu faktorsku produktivnost. Naučno-istraživačka Sesija 2: Marketing, Digitalna ekonomija, Kvantitativna ekonomija uključila je radove Gabriele Golem i Zorana Mihanovića o marketingu odnosa u institucijama kulture; Admira Džehverovića, Arnele Nanić i Alme Muratović o gerila marketingu; Ermine Mustafić i Bore Ninića o poslovnom imidžu Bosne i Hercegovine; Edina Osmanbegovića i Nedžada Pirića o uticaju institucionalnog okvira na digitalnu ekonomiju; te Samire Dedić, Dina Džambića i Slađane Filipović o kvaliteti usluge javnog prevoza. Margarita Janeska, Emilija Gjorgjioska, Monika Angeloska Dichovska i Aneta Risteska Jankuloska istraživale su javne nabavke kroz prizmu Benfordovog zakona. Naučno-istraživačka Sesija 3: Menadžment sadržala je radove Tibora Gonde i Monike Pentz o turističkom potencijalu i upravljanju ruralnim naslijeđem; Boglárke Ágnes Mészáros i Gabrielle Varge o pristupačnom turizmu u Mađarskoj; Zoltána Raffaya i Tibora Gonde o inovativnim praksama u pristupačnom turizmu; Bahrije Umihanića, Amre Abadžić i Mirele Ćebić o ulozi menadžerskih kompetencija u lokalnom razvoju; Draga Cvijanovića i Tamare Gajić o ruralnom turizmu u Srbiji kao faktoru održivosti; te Alme Muratović i Selme Smajlović koje su proučavale zastupljenost elemenata strateškog marketinškog planiranja kod kompanija sa učešćem inostranog kapitala u Bosni i Hercegovini. Bahrija Umihanić i Umihana Umihanić predstavili su istraživanja reformi regulativnih politika za turizam i ugostiteljstvo Federacije Bosne i Hercegovine. Također, Mirela Kljajić-Dervić, Ema Mustajbašić i Selma Smajlović analizirale su razvijenost aktivnosti talent menadžmenta u uslužnim preduzećima u Bosni i Hercegovini.Naučno-istraživačka Sesija 4: Ekonomska teorija i politika obuhvatila je radove Emilije Gjorgjioske, Margarite Janeske, Tatjane Spaseske i Dragice Odzaklieske o postupcima javnih nabavki; Jasmina Halebića i Nedžme Dizdarević o razvojnim izazovima u lokalnim zajednicama; Zijada Džafića i Admira Omerbašića o uticaju inovacija na konkurentnost; Natasha Trajkove Najdovske, Meri Boshkoske i Ile Masalkovskog o lokalnom ekonomskom razvoju opština; Merima Kasumovića i Vildane Altumbabić o fiskalnoj politici i konkurentnosti prerađivačke industrije; Monike Angeloske Dichovske, Saimira Mansakua, Hristine Gjelevske i Iside Mansaku o razvoju socijalnih preduzeća; Ljiljane Veselinović i Jasmine Mangafić o uticaju demografskih faktora na termalnu udobnost; Réke Wilhelma i Zoltána Kaposija o transformaciji turizma na jezeru Balaton; te Jasmine Hurić koja je istraživala uticaj fiskalnih i trgovinskih deficita na ekonomiju Bosne i Hercegovine. Ove sesije su ponudile izuzetnu platformu za razmjenu znanja i ideja, postavljajući temelje za buduće inovacije i napredak u ekonomiji i poslovanju. Na konferenciju je bilo prijavljeno 55 apstrakata radova, od kojih je nakon recenzije odobreno pisanje 48 radova. Autori su dostavili na ocjenu 45 radova, a nakon rigorozne dvostruke recenzije odobreno je 31 naučni rad. Radove su pisali naučnici samostalno ili u koautorstvu, pri čemu je koautorstvo često uključivalo autore sa različitih ekonomskih fakulteta iz različitih država, što je dodatno doprinelo kvaliteti i značaju

konferencije. Na konferenciji je sudelovalo 65 autora radova, od kojih je 36 bilo iz Bosne i Hercegovine, a 29 iz inostranstva (Albanija, Crna Gora, Hrvatska, Mađarska, Sjeverna Makedonija, Srbijaitd.). U procesu recenziranja apstrakata i radova učestvovalo je 29 recenzenata.

Studentska sesija pod nazivom "Kretanje kroz haos: Upravljanje projektima u doba Start-UP-a", održana kao dio Osme internacionalne naučne konferencije "Ekonomija integracija" – ICEI 2023, pružila je učesnicima jedinstvenu priliku da se upoznaju s dinamikom i izazovima upravljanja projektima u okruženju Start-Up-a. Radionicu je vodio Azur Ramić, poznati serijski poduzetnik i iskusni Project Manager iz Ministry of Programming, čija impresivna karijera u marketinškoj, oglašivačkoj i IT industriji, uz akademsko znanje iz marketinga, čini ga savršenim mentorom za ovakav događaj. Tokom radionice, pokriveni su ključni aspekti upravljanja projektima u Start-Up-ima, uključujući adaptaciju strategija u skladu s brzim promjenama na tržištu i efikasnu komunikaciju s osnivačima i timovima. Poseban naglasak stavljen je na važnost agilnih metodologija, poput Scruma i Kanbana, te njihovu primjenu u praksi. Diskusije su obuhvatile identifikaciju i upravljanje rizicima, kao i rješavanje problema u realnom vremenu. Zaključak radionice studentima je pružio ne samo sažetak ključnih tačaka koje su naučene, već i dublji uvid u važnost prilagodljivosti i agilnosti u nepredvidivom Start-Up okruženju. Ova radionica, koja je kombinovala teoretska znanja s praktičnim vještinama kroz interaktivne diskusije i studije slučaja, bila je idealna prilika za studente koji teže poduzetničkoj karijeri, omogućavajući im da razviju vještine ključne za uspješno vođenje projekata u dinamičnom i inovativnom svijetu Start-Up-a.

Na Biznis forumuodržano je pet panela koji su istraživali temu "Održiva ekonomija i turizam u procesu pridruživanja Evropskoj Uniji". Panel "Odgovorno bankarstvo za održivu ekonomiju i turizam", pod vodstvom prof. dr. sci. Željka Šaina s Ekonomskog fakulteta Univerziteta u Sarajevu, okupio je stručnjake iz bankarskog sektora i regulatornih agencija, uključujući Senada Softića, guvernera Centralne banke Bosne i Hercegovine, Lidiju Žigić, predsjednicu Uprave NLB d.d. Sarajevo, Igora Jokića, člana Uprave i Chief Risk Officer (CRO) Sparkasse Bank BiH, i Almu Kešo iz Agencije za osiguranje depozita Bosne i Hercegovine. Na panelu "Energetska transformacija: Ulaganje u održivu energetsku budućnost", moderiranom od prof. dr. Bahrije Umihanića s Ekonomskog fakulteta Univerziteta u Tuzli, sudjelovali su Izudin Ahmetlić, vlasnik HIFA-OIL d.o.o. Tešanj, Aleksandar Ivanković, komercijalni direktor OPTIMA Grupa d.o.o. Banja Luka, Filip Andrijanić iz Violeta d.o.o. Grude i Vedran Lakić, ministar Federalnog ministarstva energetike, rudarstva i industrije. Panel "Tranzicijski put za održivi turizam", pod moderacijom prof. dr. sci. Semira Ahmetbegovića s Prirodno-matematičkog fakulteta Univerziteta u Tuzli, uključio je Feđu Begovića, direktora projekta USAID turizam BiH, prof. dr. sci. Doru Smolčić Jurdanu s Fakulteta za menadžment u turizmu i ugostiteljstvu Opatija, doc. dr. sci. Nasihu Pozder, ministricu Federalnog ministarstva okoliša i turizma, i Dželminu Huremović, pomoćnicu ministra u Ministarstvu trgovine, turizma i saobraćaja Tuzlanskog kantona. Panel "Digitalizacija i zelena transformacija put ka održivoj ekonomiji", pod vodstvom prof. dr. sci. Edina Osmanbegovića s Ekonomskog fakulteta Univerziteta u Tuzli, okupio je Seada Omerčevića iz Babilon Tuzla, Alju Mujčića, redovnog profesora Fakulteta elektrotehnike Univerziteta u Tuzli, Edina Kadrića, direktora Xella BH d.o.o. Tuzla i Edina Durakovića, ministra Ministarstva privrede Tuzlanskog kantona. Panel "ESG u osiguranju i mogućnosti za razvoj karijere u sektoru osiguranja", moderiran od prof. dr. sci. Safeta Kozarevića s Ekonomskog fakulteta Univerziteta u Tuzli, okupio je stručnjake iz osiguranja i akademske zajednice, uključujući mr. sci. Almu Smailagić iz Agencije za nadzor osiguranja Federacije BiH, Zlatana Filipovića, direktora Bosna Reosiguranja, prof. dr. sci. Željka Šaina s Ekonomskog fakulteta u Sarajevu i Damira Karahodžu, MA iz Uniqa osiguranja. Ovi paneli su pružili platformu za dijalog, razmjenu znanja i ideja te zajedničko traženje puteva ka

održivoj budućnosti u Bosni i Hercegovini na putu integracije u Evropsku Uniju, čime je Biznis forum ICEI 2023 predstavljao važnu priliku za sve učesnike da doprinesu ovom ključnom procesu.

Medijski pokrovitelji Osme internacionalne naučne konferencije "Ekonomija integracija" – ICEI 2023 bili su BHRT – Radiotelevizija Bosne i Hercegovine, RTV TK – Radiotelevizija Tuzlanskog kantona, RTV Slon, RTV7 – Medijski servis grada Tuzle i Radio Kameleon Tuzla. Ovi vodeći medijski partneri vodili su učesnike kroz svijet održive ekonomije i turizma na putu ka Evropskoj Uniji. Osigurali su da su učesnici uvijek bili u središtu zbivanja, informisani o najnovijim trendovima i dostignućima u oblasti održive ekonomije i turizma.

Na Osmoj internacionalnoj naučnoj konferenciji "Ekonomija integracija" – ICEI 2023, kreirani su zaključci na svakoj panel sesiji, koji su objedinjeni i dostavljeni federalnoj i kantonalnoj vladi, ministarstvima obrazovanja, privrede, univerzitetima, privrednim komorama i udruženjima poslodavaca, kao i svim relevantnim subjektima na koje su se zaključci odnosili. U zaključcima konferencije, fokus je bio na centralnoj temi "Održiva ekonomija i turizam na putu ka pridruživanju Evropskoj Uniji", pri čemu su naglašeni ključni aspekti poput održivog razvoja, strategija za unapređenje turizma, digitalizacije, uloge privatnog sektora, te pravnih i institucionalnih reformi. Izražavamo uvjerenje da će ovi zaključci pomoći nadležnim institucijama da, u okviru svojih mandata i ovlasti, daju značajan doprinos unapređenju ekonomske stabilnosti i konkurentnosti, te ubrzavanju integracijskih procesa Bosne i Hercegovine i zemalja Jugoistočne Evrope u Evropsku Uniju. Očekujemo da će preporuke izložene na konferenciji poslužiti kao temelj za donošenje konkretnih mjera i politika koje će podržati održivi razvoj i socioekonomsku inkluziju u regionu.

Foreword

The Faculty of Economics at the University of Tuzla organizes the conference "Economics of Integration" (ICEI) on a biennial basis. This conference is well-established and has a regional character, with the Faculty organizing it in cooperation with co-organizers from Croatia, Slovenia, Montenegro, Serbia, and North Macedonia. The successful collaboration between the Faculty of Economics in Tuzla and these higher education institutions provides numerous opportunities for the enhancement of educational processes and scientific research work, and it enables better integration of the University into the European Higher Education Area.

At the first ICEI conference held in 2009, experts from the Southeast European region discussed the topic "How to Manage in Times of Crisis," providing practical advice and strategies for managing crisis situations. The second conference was dedicated to the topic "Challenges and Perspectives of Integration of Southeast European Countries," contributing to a better understanding and improvement of integration processes in the region. The third conference focused on the theme "From Recession to Prosperity through Knowledge," emphasizing the importance of education and innovation as key factors for economic recovery and growth. The fourth conference addressed the theme "Challenges of Economies in a Crisis Environment," providing analyses and recommendations for overcoming economic challenges in unstable times. The fifth conference discussed "The Role of Economic Thought in the Contemporary Environment," highlighting the significance of economic theory and practice in shaping modern economic policies. The sixth conference, titled "Emigration and Competitiveness of Southeast European Countries," provided insights into migration trends and their impact on regional competitiveness, proposing measures to improve the economic attractiveness of the region. The seventh conference in 2021, titled "Economic Response and Recovery to the Crisis Caused by the COVID-19 Pandemic," enabled researchers, practitioners, and scientists to exchange experiences and discuss economic strategies for recovery from the pandemic, thereby contributing to the formulation of effective post-pandemic policies.

The Eighth International Scientific Conference "Economics of Integration" – ICEI 2023, was held on December 7-8, 2023, at the Hotel Mellain in Tuzla, under the theme "Sustainable Economy and Tourism on the Path to EU Accession." The aim of this conference was to explore, discuss, and present how sustainable economy and tourism can contribute to the process of Bosnia and Herzegovina and other Southeast European countries joining the European Union, on a multidisciplinary and international level. Focusing on innovative approaches in banking, energy, tourism, digitization, and insurance, the conference aimed to create a platform for the exchange of knowledge, experiences, and best practices. This exchange allowed participants to develop new ideas and strategies that would be beneficial not only for Bosnia and Herzegovina but also for the wider region in the process of integration into the European Union. By promoting sustainable development and socio-economic inclusion, the conference provided insights and recommendations for improving economic stability and competitiveness. In this way, ICEI 2023 contributed to strengthening the capacities and readiness of Southeast European countries for successful EU accession.

The Faculty of Economics at the University of Tuzla realized the Eighth International Scientific Conference ICEI 2023 in cooperation with six economics faculties from the region, including the Faculty of Economics in Osijek, Josip Juraj Strossmayer University of Osijek from Croatia, Faculty of Economics and Business, University of Maribor from Slovenia, Belgrade Banking Academy - Faculty for Banking, Insurance, and Finance from Belgrade, Serbia, Faculty of Economics in Podgorica from Montenegro, Faculty of Economics in Prilep, "St. Kliment Ohridski" University from North Macedonia, and the Faculty of Hotel Management and Tourism in Vrnjačka Banja, University of Kragujevac from Serbia. The

central theme of the Eighth International Scientific Conference, "Sustainable Economy and Tourism on the Path to EU Accession," was addressed through nineteen thematic areas covering the most important aspects of sustainable development and integration. Thematic areas included: free movement of goods, people, and capital; social policy and employment; trans-European networks; improvement of the business environment; entrepreneurship and industrial policy; economic and monetary policy; science and research; education and culture; ESG standards and green economy; European funds and project management; sustainable finance; sustainability accounting and non-financial reporting; environmental accounting and sustainable tourism development; sustainable tourism development indicators and measurement methodologies; destination management and competitiveness of sustainable tourism; marketing, branding, and creating tourism experiences; digital business transformation and technology application in tourism; rural development and special forms of tourism; and inclusive tourism and accessibility. This multidisciplinary and international conference provided a platform for the exchange of knowledge, experiences, and best practices, with the aim of developing new ideas and strategies beneficial for Bosnia and Herzegovina and the wider region in the process of integration into the European Union, promoting sustainable development and socio-economic inclusion.

The Eighth International Scientific Conference ICEI 2023 was realized in the form of panel sessions, including a Plenary Session – Deans' Session, a Special Session titled "Artificial Intelligence in Education and Research," Scientific Research Sessions, a Student Session titled "Navigating Chaos: Project Management in the Era of Start-Ups," and a Business Forum that included five panels with over 25 panelists.

The central part of the conference was the Plenary Session, also known as the Deans' Session. For the first time, since the organization of the International Scientific Conference "Economics of Integration" – ICEI, the central panel featured deans of six economics faculties as moderators and panelists. The moderator was Prof. Dr. Meldina Kokorović Jukan, Dean of the Faculty of Economics in Tuzla, while the panelists included Prof. Dr. Boris Crnković, Dean of the Faculty of Economics in Osijek, Prof. Dr. Zoran Grubišić, Dean of the Belgrade Banking Academy, Prof. Dr. Drago Cvijanović, Dean of the Faculty of Hotel Management and Tourism in Vrnjačka Banja, Prof. Dr. Mirela Kljajić-Dervić, Dean of the Faculty of Economics at the University of Bihać, and Prof. Dr. Igor Živko, Dean of the Faculty of Economics at the University of Mostar. This session was not merely a listing of topics; it represented a narrative of economists about the journey of Southeast Europe towards the European Union, the intertwining of economic theory and practice, and the challenges and opportunities facing the countries of the region. The focus was on sustainable development economic models, sustainable tourism strategies, EU market integration, the economic impact of EU funds, digitization, education, the role of the private sector, legal and institutional reforms, natural resource management, and socio-economic inclusion. The discussion on sustainable development economic models opened the way to understanding how Western Balkan countries can adopt practices that are both ecologically sustainable and economically efficient. The exploration of sustainable tourism strategies opened a new chapter in the book of regional development, highlighting how tourism can be a driver of economic growth while also being a guardian of natural and cultural treasures.

The second session of the conference, the Special Session titled "Artificial Intelligence in Education and Research," provided significant expectations and benefits for future and established researchers and professors. The session was moderated by Prof. Dr. Jasmina Okičić Džindo from the Faculty of Economics in Tuzla, with panelists including distinguished professors and researchers, such as Mislav Malenica, President of the CroAI Association and Founder and Director of Mindsmiths from Zagreb, Prof. Dr. Elvis Ahmetović from the Faculty of Technology at the University of Tuzla, Prof. Dr. Amila Pilav-Velić from the

Faculty of Economics at the University of Sarajevo, Prof. Dr. Sabina Đonlagić Alibegović from the Faculty of Economics at the University of Tuzla, Dr. Marina Stanić from the Faculty of Economics in Osijek, and M.Sc. Tanja Madžarević, Director of Engineering at Virgin Pulse. This session was an opportunity for the exchange of knowledge and experiences about the latest trends and applications of artificial intelligence in various fields of research and science. Participants could explore how AI transforms the research and science sector and consider the opportunities and challenges this technology brings. The discussion also provided an opportunity for networking and collaboration among researchers, which could lead to new innovative projects and research in the field of artificial intelligence.

The third panel session of the ICEI 2023 conference, known as the Scientific Research Sessions, explored various aspects of economics and management, contributing to the theme "Sustainable Economy and Tourism on the Path to EU Accession."Scientific Research Session 1: Finance and Financial Policy included works by Milan Raičević and Milijana Novović Burić on the potential for developing green insurance; Filip Taskovski on the macroeconomic determinants of public debt; Radojko Lukić and Emira Kozarević on the efficiency of banks in Serbia; Džafer Alibegović, Lejla Dedović, and Nejra Hadžiahmetović on working capital management and profitability; Nikola Papac, Anela Čolak, and Branimir Skoko on the quality of corporate governance; and Sabina Hodžić and Tanja Fatur Šikić on the efficiency of environmental protection expenditures. Mirnesa Baraković Nurikić researched the green growth index and financial inclusion, while Kadrija Hodžić, Emira Kozarević, and Muhamed Ibrić analyzed green total factor productivity.Scientific Research Session 2: Marketing, Digital Economy, Quantitative Economics included works by Gabriela Golem and Zoran Mihanović on relationship marketing in cultural institutions; Admira Džehverović, Arnela Nanić, and Alma Muratović on guerrilla marketing; Ermina Mustafić and Boro Ninić on the business image of Bosnia and Herzegovina; Edin Osmanbegović and Nedžad Pirić on the impact of the institutional framework on the digital economy; and Samira Dedić, Dino Džambić, and Slađana Filipović on the quality of public transportation services. Margarita Janeska, Emilija Gjorgjioska, Monika Angeloska Dichovska, and Aneta Risteska Jankuloska investigated public procurement through the lens of Benford's Law.Scientific Research Session 3: Management included works by Tibor Gonda and Monika Pentz on tourism potential and rural heritage management; Boglárka Ágnes Mészáros and Gabriella Varga on accessible tourism in Hungary; Zoltán Raffay and Tibor Gonda on innovative practices in accessible tourism; Bahrija Umihanić, Amra Abadžić, and Mirela Ćebić on the role of managerial competencies in local development; Drago Cvijanović and Tamara Gajić on rural tourism in Serbia as a sustainability factor; and Alma Muratović and Selma Smajlović who studied the presence of strategic marketing planning elements in companies with foreign capital participation in Bosnia and Herzegovina. Bahrija Umihanić and Umihana Umihanić presented research on regulatory policy reforms for tourism and hospitality in the Federation of Bosnia and Herzegovina.Additionally, Mirela Kljajić-Dervić, Ema Mustajbašić, and Selma Smajlović analyzed the development of talent management activities in service companies in Bosnia and Herzegovina.Scientific Research Session 4: Economic Theory and Policy included works by Emilija Gjorgjioska, Margarita Janeska, Tatjana Spaseska, and Dragica Odzaklieska on public procurement procedures; Jasmin Halebić and Nedžma Dizdarević on developmental challenges in local communities; Zijad Džafić and Admir Omerbašić on the impact of innovations on competitiveness; Natasha Trajkova Najdovska, Meri Boshkoska, and Ile Masalkovski on local economic development of municipalities; Merim Kasumović and Vildana Altumbabić on fiscal policy and competitiveness of the manufacturing industry; Monika Angeloska Dichovska, Saimir Mansaku, Hristina Gjelevska, and Isida Mansaku on the development of social enterprises; Ljiljana Veselinović and Jasmina Mangafić on the impact of demographic factors on thermal comfort; Réka Wilhelm and

Zoltán Kaposi on the transformation of tourism at Lake Balaton; and Jasmina Hurić, who researched the impact of fiscal and trade deficits on the economy of Bosnia and Herzegovina. The Student Session titled "Navigating Chaos: Project Management in the Era of Start-Ups," held as part of the Eighth International Scientific Conference "Economics of Integration" – ICEI 2023, provided participants with a unique opportunity to familiarize themselves with the dynamics and challenges of project management in a Start-Up environment. The workshop was led by Azur Ramić, a renowned serial entrepreneur and experienced Project Manager from the Ministry of Programming, whose impressive career in the marketing, advertising, and IT industries, along with academic knowledge in marketing, makes him a perfect mentor for such an event. During the workshop, key aspects of project management in Start-Ups were covered, including adapting strategies to rapid market changes and effective communication with founders and teams. Special emphasis was placed on the importance of agile methodologies, such as Scrum and Kanban, and their practical application. Discussions included identifying and managing risks, as well as problem-solving in real-time. The workshop conclusion provided students not only with a summary of key points learned but also a deeper insight into the importance of adaptability and agility in the unpredictable Start-Up environment. This workshop, which combined theoretical knowledge with practical skills through interactive discussions and case studies, was an ideal opportunity for students aspiring to an entrepreneurial career, allowing them to develop skills essential for successfully leading projects in the dynamic and innovative world of Start-Ups.

The Business Forum included five panels that explored the theme "Sustainable Economy and Tourism in the Process of EU Accession." The panel "Responsible Banking for a Sustainable Economy and Tourism," led by Prof. Dr. Željko Šain from the Faculty of Economics at the University of Sarajevo, gathered experts from the banking sector and regulatory agencies, including Senad Softić, Governor of the Central Bank of Bosnia and Herzegovina, Lidija Žigić, President of the Management Board of NLB d.d. Sarajevo, Igor Jokić, Member of the Management Board and Chief Risk Officer (CRO) of Sparkasse Bank BiH, and Alma Kešo from the Deposit Insurance Agency of Bosnia and Herzegovina. The panel "Energy Transformation: Investing in a Sustainable Energy Future," moderated by Prof. Dr. Bahrija Umihanić from the Faculty of Economics at the University of Tuzla, included participants such as Izudin Ahmetlić, owner of HIFA-OIL d.o.o. Tešanj, Aleksandar Ivanković, Commercial Director of OPTIMA Grupa d.o.o. Banja Luka, Filip Andrijanić from Violeta d.o.o. Grude, and Vedran Lakić, Minister of the Federal Ministry of Energy, Mining, and Industry. The panel "Transitional Path for Sustainable Tourism," moderated by Prof. Dr. Semir Ahmetbegović from the Faculty of Natural Sciences and Mathematics at the University of Tuzla, included Feđa Begović, Director of the USAID Tourism Project BiH, Prof. Dr. Dora Smolčić Jurdana from the Faculty of Tourism and Hospitality Management in Opatija, Assistant Professor Dr. Nasiha Pozder, Minister of the Federal Ministry of Environment and Tourism, and Dželmina Huremović, Assistant Minister in the Ministry of Trade, Tourism, and Transport of the Tuzla Canton. The panel "Digitization and Green Transformation: Path to a Sustainable Economy," led by Prof. Dr. Edin Osmanbegović from the Faculty of Economics at the University of Tuzla, gathered Sead Omerčević from Babilon Tuzla, Aljo Mujčić, Full Professor at the Faculty of Electrical Engineering at the University of Tuzla, Edin Kadrić, Director of Xella BH d.o.o. Tuzla, and Edin Duraković, Minister of Economy of the Tuzla Canton. The panel "ESG in Insurance and Career Opportunities in the Insurance Sector," moderated by Prof. Dr. Safet Kozarević from the Faculty of Economics at the University of Tuzla, gathered experts from the insurance and academic communities, including M.Sc. Alma Smailagić from the Insurance Supervision Agency of the Federation of BiH, Zlatan Filipović, Director of Bosna Reinsurance, Prof. Dr. Željko Šain from the Faculty of Economics in Sarajevo, and Damir Karahodža, MA from Uniqa Insurance. These panels provided a

platform for dialogue, knowledge exchange, and idea sharing, and a joint search for paths to a sustainable future in Bosnia and Herzegovina on the path to EU integration, making the ICEI 2023 Business Forum an important opportunity for all participants to contribute to this crucial process.

The media sponsors of the Eighth International Scientific Conference "Economics of Integration" – ICEI 2023 included BHRT – Radio Television of Bosnia and Herzegovina, RTV TK – Radio Television of Tuzla Canton, RTV Slon, RTV7 – Media Service of the City of Tuzla, and Radio Kameleon Tuzla. These leading media partners guided participants through the world of sustainable economy and tourism on the path to the European Union. They ensured that participants were always at the center of events, informed about the latest trends and achievements in the field of sustainable economy and tourism.

At the Eighth International Scientific Conference "Economics of Integration" – ICEI 2023, conclusions were created at each panel session, which were consolidated and delivered to the federal and cantonal governments, ministries of education, economy, universities, chambers of commerce, and employers' associations, as well as all relevant entities to which the conclusions pertained. The conclusions of the conference focused on the central theme "Sustainable Economy and Tourism on the Path to EU Accession," emphasizing key aspects such as sustainable development, strategies for improving tourism, digitization, the role of the private sector, and legal and institutional reforms. We express our conviction that these conclusions will help relevant institutions, within their mandates and authorities, to make a significant contribution to improving economic stability and competitiveness, and accelerating the integration processes of Bosnia and Herzegovina and Southeast European countries into the European Union. We expect that the recommendations presented at the conference will serve as a foundation for adopting concrete measures and policies that will support sustainable development and socio-economic inclusion in the region.

FINANCE AND FINANCIAL POLICY /
FINANSIJE I FINANSIJSKA POLITIKA

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ANALYSIS OF THE POTENTIAL FOR THE DEVELOPMENT OF GREEN INSURANCE IN THE MARKETS OF MONTENEGRO, SERBIA AND BOSNIA AND HERZEGOVINA

Abstract

The concept of sustainability permeates all economic sectors and business segments, which makes it current and important both for the professional and the academic community. The Sustainable Development Goals take into account a holistic approach, linking economic growth, social inclusion and environmental protection. Insurance can play a significant role in achieving the goals of sustainable development through a multiplicative effect on all three mentioned dimensions. Acceptance of the sustainable concept by insurance companies increases their opportunities to develop green products. The aim of this paper is to examine the degree of development and application of green insurance in the markets of Montenegro, Serbia and Bosnia and Herzegovina, that is, to indicate the possibilities and limitations of the development of this relatively new type of insurance. Survey research will provide answers on the level of knowledge and application of green insurance in selected markets, as well as on the potential of developing green insurance products. This work will provide both a scientific and a practical contribution that will benefit many actors who contribute in different ways to the development of green insurance.

Keywords: sustainable development, ESG criteria, green insurance, green products, Western Balkans

JEL: G22, Q5

INTRODUCTION

As a result of climate change and environmental pollution, the world is rapidly changing, significantly impacting all segments of the economy. Anthropogenic climate changes have been accelerating recently and their consequences are being felt in many areas, including the insurance sector.

In 2015, the United Nations (UN) adopted 17 Sustainable Development Goals (SDGs) with the primary mission of reducing poverty, protecting the planet and ensuring that people enjoy peace and prosperity by 2030. These goals are intended to strike a balance between social, economic, and environmental sustainability (United Nations Development Programme, https://www.undp.org/sustainable-development-goals). In the context of sustainable development, both at the global and individual country levels, constant transformations are occurring within companies. Such transformations are redesigning established business paradigms, prompting companies to alter their business priorities. Accordingly, insurance

companies, as significant players in the financial market, are undergoing significant changes. There is no doubt that the insurance industry can play a monumental and multifaceted role in accelerating the transition to more sustainable economies and communities. Insurers not only act as providers of protection but also as risk managers and investors (Capgemini Invent Group Report, 2021).

According to the World Bank report (World Bank Report, 2021), the insurance sector can make a significant contribution to achieving specific sustainable development goals. These goals include those related to a world without poverty, zero hunger, good health, reduced inequalities, sustainable cities and communities and climate action. Additionally, a specific goal where the importance of insurance is emphasized is the goal related to decent work and economic growth. Indeed, the insurance sector can foster economic growth not only by increasing a country's GDP but also by ensuring financial stability. Insurance companies are substantial institutional investors in the capital market, contributing to the enhancement of the financial market and, consequently, the overall financial and economic system.

The insurance industry is recognized as a significant factor in improving the overall economic activity of society. This is evident through its support for the financial stability of a country, strengthening social security, diversifying economic activities, and improving risk management efficiency. Insurance provides financial stability at the individual, family and business levels (Marović & Lemić-Saramandić, 2011, p. 66). Therefore, the role of insurance in achieving sustainable development goals is enormous. The acceptance of the sustainable concept by insurance companies enables the implementation of the Principles for Sustainable Insurance, defined in 2012 by the United Nations Environment Programme Financial Initiative - UNEP FI. These principles represent a crucial step in building a green economy. Developed by UNEP FI, they provide a voluntary framework for the global insurance industry to assess environmental, social and governance risks and opportunities accurately.

Therefore, the aim of this paper is to examine the potential of the insurance markets in selected Western Balkan countries, namely Montenegro, Serbia and Bosnia and Herzegovina, for the development of green insurance. The paper focuses on the acceptance and application of the above-mentioned Principles for Sustainable Insurance, the potential for the development of green insurance products, as well as the opportunities and limitations for their implementation. By analyzing the responses obtained from a web-based survey conducted in the insurance markets of these countries, among employees in the insurance industry, this paper seeks to provide answers to the following research questions (RQs):

> ➢ RQ1: To what extent are insurance companies in Montenegro, Serbia and Bosnia and Herzegovina familiar with the Principles for Sustainable Insurance and do they apply them?
> ➢ RQ2: To what extent do insurance companies have developed green insurance products?
> ➢ RQ3: What are the opportunities and limitations in the insurance markets of Montenegro, Serbia and Bosnia and Herzegovina for the development of green insurance?

These are countries with a similar level of development in the insurance market, as confirmed by the following statistical data. In 2022, the insurance penetration in Montenegro was 1,87%, with insurance density at 175,6€ per capita[i]. In Serbia, the share of the premium in GDP in 2022 was 1,9%, with a premium per capita of 170€[ii]. In Bosnia and Herzegovina, the

insurance penetration in 2022 was around 1,9%, with lower insurance density compared to Montenegro and Serbia, approximately 131€ per capita[iii].

This paper will provide significant contributions both in terms of academic research and practical applications. The scientific contribution lies in the exploration of a relatively new and highly relevant issue. Green insurance is not as extensively studied as it should be, given the importance that insurance will have in the future concerning sustainable development and the green economy. Additionally, the practical contribution of this paper is evident, as the presented results will be valuable to the management of insurance companies in the analyzed countries as a basis for making important decisions and defining the company's development strategy towards sustainability. Besides insurance companies, regulators and key decision-makers in the country can also use the results to further develop the insurance market and the economy.

The paper is structured into two main sections, in addition to the introduction, conclusion, and literature review. The first part provides a theoretical overview of the Principles of Sustainable Insurance and green insurance products, while the second part focuses on presenting the results of the conducted survey, which forms the basis for the concluding remarks.

LITERATURE REVIEW

The topic of green insurance, i.e., the role of insurance in achieving sustainable development, is underrepresented in scientific literature, especially when it comes to empirical studies and analyses from the perspective of insurance companies. This is evident in the limited number of papers that have addressed this issue, particularly in the context of the Western Balkans. Below is a review of some available works on this topic.

Stricker et al. (2022) emphasize that anthropogenic climate changes are accelerating, and their consequences can be severe and widespread. Although insurance is not closely associated with any dimension of sustainability, changes in this sector are imminent. In this paper, the authors analyze the role of insurers in addressing environmental issues and climate change, as well as the development of a genuinely sustainable, environmentally friendly business model – green insurance. They develop and propose a roadmap for the transformation of insurance companies to adapt to the growing demands in the context of sustainable development. Pugnetti et al. (2022) have also analyzed a similar theme and highlighted the need for a more substantial role for insurance in achieving sustainable development goals. The paper examines the incorporation of environmental dimensions into the core activities of insurers. Since insurance is a key driver of economic development and climate change risks are becoming increasingly complex and dangerous, the authors stress that insurance should take a proactive role in addressing these challenges. These requirements are not just met through sophisticated risk assessment models but also through the development of key products, services and processes.

In addition to the academic community, numerous reports addressing the topic of green insurance have been published by well-known financial, consulting, and other organizations. Capgemini Invent, as a global leader in assisting companies in transforming their business processes, published a report in 2021 on sustainable insurance. This report highlights the opportunities for the development of new insurance products and their impact on policyholder behavior in response to growing climate changes. It emphasizes the need for insurers to focus

on providing sustainable insurance products. Their market position and motivation to meet the increasing needs of policyholders and green standards are already mature. Furthermore, the World Bank's report (2021) on the insurance sector's contribution to sustainable development goals underscores the role of insurance in helping countries achieve sustainability goals in terms of economic growth, social inclusion and environmental protection. The contribution of insurance can be seen through targeted interventions in countries where the development of the insurance market and the achievement of sustainable development goals will require greater support. The report highlights that the previous role of insurance has been somewhat neglected in the context of sustainable development goals, primarily because current indicators do not encompass metrics related to insurance. The Allianz Group's research in 2020 discusses sustainable insurance as an opportunity for society and business. It emphasizes that positive change requires more "impactful" activities that shift unsustainable behaviors and processes towards sustainability. This report defines nine areas in which the insurance sector can implement sustainable actions: climate change and weather extremes, investments in renewable energy sources, alternative mobility, real estate, sustainable lifestyles, the future of business, digitization and sector convergence, new clients and locations, and the ecosystem.

On the other hand, there is a series of papers focusing on specific green insurance products. In the previously mentioned Capgemini Invent report (2021), a selection of insurance products offered by insurers in the United States is outlined. They distinguish several insurance products, including: "Pay as you drive" insurance (motor vehicle insurance where the premium depends on the efficient use of the vehicle by the insured); "LEED (Leadership in Energy and Environmental Design) certificate insurance" (insurance for properties that possess this certificate, confirming compliance with environmentally efficient and sustainable construction standards); "Green rebuilding" (coverage for damage to rebuild insured properties according to eco-standards); "Energy generation benefits" (homeowners who generate and sell excess solar energy receive certain premium discounts); "Discounts for green behavior" (discounts for insuring electric and/or hybrid vehicles); "Green restoration" (after total loss, restoration is done using environmentally friendly resources).

Landini (2014) explores green motor insurance in his study, emphasizing that eco-friendly driving can be one strategy to reduce greenhouse gas emissions. Insurance companies can act as instruments to improve eco-friendly driving. Furthermore, Echeverria (2012) discusses green building as sustainable construction in an environmentally responsible and resource-efficient manner, in relation to green property insurance. A comparison with traditional property insurance products is made, which typically had higher costs and excluded green components, among other differences.

Regarding the Western Balkans, Raičević et al. (2022) point out that Montenegrin insurance companies strive to operate socially responsibly. They also note that green insurance is minimally represented in the market and that the companies are insufficiently prepared to implement green insurance products into their portfolios. The authors emphasize that there is a very good basis for their development in the future.

Through the analysis of the previous literature, it is evident that emerging markets are less researched than developed ones when it comes to sustainable development and green products. According to the authors' knowledge, there is no significant research for this region that evaluates the potential of the insurance market for the development of green insurance.

Therefore, the aim of this paper is precisely to examine the potential of the insurance market for the development of green insurance in Montenegro, Serbia and Bosnia and Herzegovina.

PRINCIPLES FOR SUSTAINABLE INSURANCE AND GREEN INSURANCE PRODUCTS

The formal integration of the concept of sustainable development into the insurance industry began in 2012 with the adoption of the Principles for Sustainable Insurance. According to the document of the United Nations Environment Programme Finance Initiative (UNEP FI) through which these principles were adopted, insurers joining this global initiative accept basic aspirations and turn them into concrete actions. These actions range from integrating ESG (Environmental, Social, and Governance)[iv] issues into the company's management and operations to working collaboratively with clients, suppliers and governments to raise awareness about ESG issues while developing new types of risk management products and services. Four key Principles for Sustainable Insurance were adopted:

- ➢ P1: We will embed in our decision-making environmental, social and governance (ESG) issues relevant to our insurance business.
- ➢ P2: We will work together with our clients and business partners to raise awareness of environmental, social and governance issues, manage risk and develop solutions.
- ➢ P3: We will work together with governments, regulators and other key stakeholders to promote widespread action across society on environmental, social and governance issues.
- ➢ P4: We will demonstrate accountability and transparency in regularly disclosing publicly our progress in implementing the Principles.

Each of the above principles implies specific activities that need to be undertaken to achieve it. Potential activities relate to: company strategy, risk management and underwriting, product and service development, claims management, sales and marketing, investment management, policyholders, insurers, reinsurers, intermediaries and other stakeholders.

The Principles for Sustainable Insurance are an important step in building a green economy. Developed by the UNEP FI, they provide a voluntary framework for the global insurance industry to consider environmental, social and governance (ESG) risks and opportunities. The benefits of adopting the Principles for Sustainable Insurance for insurance companies include: publicly demonstrating that the insurer embraces sustainable development goals and takes responsibility for transparently managing ESG issues; access to systemic expertise and resources from the UN and UNEP for managing ESG issues and developing appropriate governance policies; access to specific research, networks and UN events related to insurance, investments, banking and more. Although voluntary, the Principles for Sustainable Insurance provide a global roadmap for the development and expansion of innovative risk management and green insurance products needed to promote renewable energy, clean water, food security, sustainable cities and disaster-resilient communities (UNEP FI, 2012, p. 1).

Therefore, at all levels, green standards are promoted and incorporated into the operations of insurance companies. In this context, their clear intention to redesign their existing portfolio by offering products that contribute to the mitigation and protection of existing and potential risks, especially from climate change, is evident (Raičević et al., 2022, p. 167). Sustainable, or more precisely, green insurance products are not precisely defined categories. However, green

innovations in the insurance industry can generally be categorized as those that support environmental protection, those aimed at creating greater resilience to environmental risks, and those that focus on achieving balanced sustainable development. Green insurance products are created in line with these objectives.

One of the present classifications of green products is divided into (Zona et al., 2014, p. 2-5):

1. Personal product line,
2. Commercial product line, and
3. Special product line.

Within the personal product line, the following can be highlighted: insurance of green property rebuilding, discounts on the purchase of devices that reduce the risk of property loss (Property loss mitigation device discount) and pay-as-you-drive insurance. The commercial product line is more extensive than the previous one and some forms of products that can be highlighted are: insurance for renewable energy projects, insurance for renewable energy property, equipment and loss of use, insurance for green building, energy-saving insurance that can provide support for energy-saving guarantees, insurance of perishable goods, political risk insurance for carbon trading. Due to the increasing importance of climate change, there is a need to define a special line of green insurance products. Among them, the following can be highlighted: insurance for pollution/environmental liability, directors' and officers' insurance with optional coverage for lawsuits related to global warming, architects & engineering professional liability insurance discount for building commissioning and professional liability insurance for raters and home energy survey professionals (More details: Zona et al., 2014, p. 2-5).

METHODOLOGY AND DATA

In order to assess the potential of the insurance market in Montenegro, Serbia and Bosnia and Herzegovina for the development of green insurance, a web-based survey was conducted. The survey was structured into four parts: 1) General information about the respondents and the companies they work for; 2) Questions related to the perception of the application of the Principles for Sustainable Insurance within the ESG policy; 3) Questions related to the level of the implementation of green insurance products; d) A segment concerning the potential and limitations of the insurance market for the development of green insurance. The survey was intended for employees in the insurance sector in managerial positions in departments/units involved in any way in the development and implementation of insurance products, such as sales, actuarial science, product development, risk management and underwriting, marketing, and similar roles. The research was conducted from March to April 2023 and included a total of 82 respondents from Montenegro, Serbia and Bosnia and Herzegovina.

Answers to the set RQs will be given using descriptive statistics. This method, seemingly simple, is extremely important and applicable in this type of research because it helps to process the initial data obtained through the survey to obtain information that enables certain conclusions to be made, ie. responding to the set RQs.
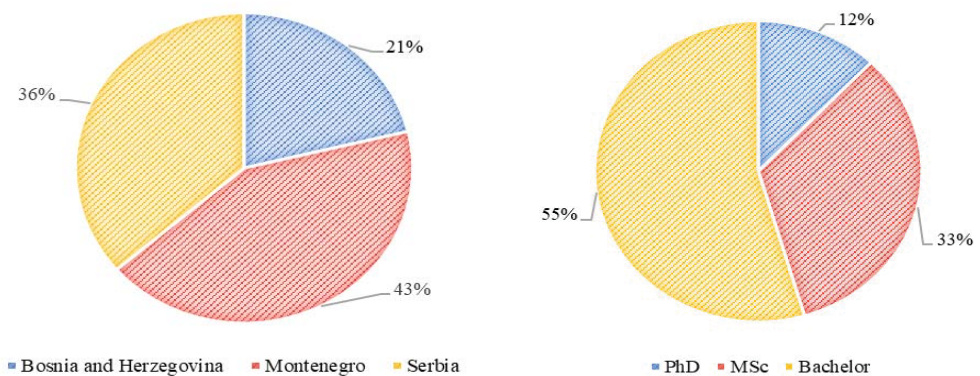
Figure 1. Sample Structure by respondents' country (left) and by level of education (right)
Source: Authors' calculation

Out of all the respondents, 42,4% were from Montenegro, 36,4% from Serbia and 21,2% from Bosnia and Herzegovina (Figure 1 - left). All respondents have a college education, with almost 54,5% holding a three - or four - year Bachelor's degree (Figure 1 - right).

Furthermore, nearly half of the respondents (48,5%) have between 11 and 20 years of professional experience in the insurance industry, while 30,3% of the respondents have up to 10 years of experience in the profession. The survey covered respondents working in medium and large companies (based on the number of employees) and even two-thirds of the respondents work in a company that is privately owned by foreign entities. It can be concluded that these are insurance companies whose parent companies are located in one of the European Union countries.

RESEARCH RESULTS

Regarding the Principles for Sustainable Insurance adopted in 2012 as a voluntary framework for corporate culture and business, through which environmental, social and governance (ESG) risks are assessed, a very small percentage of respondents are fully familiar with them (just over 1/5 of the respondents – 21,2%). About 45,5% of the respondents stated that they are partly familiar with the Principles for Sustainable Insurance, while one-third of the respondents are not acquainted with these principles. When observed by country, respondents from Montenegro are more familiar with these principles compared to the other two countries (see Figure 2). One of the reasons for these results could be the fact that all companies operating in the Montenegrin market and engaged in non-life insurance business are, in fact,
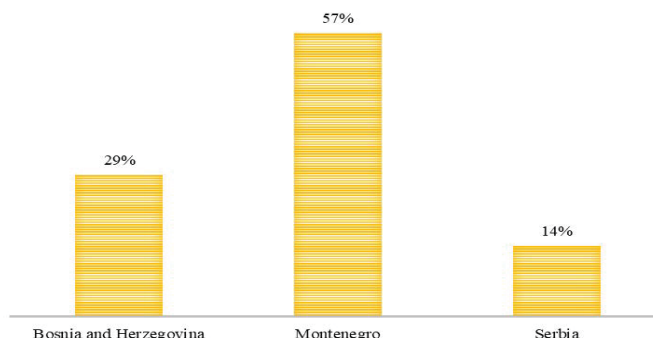
subsidiaries of insurance companies from EU countries.

Figure 2. Familiarity with the Principles for Sustainable Insurance by respondents' country
Source: Authors' calculation

As mentioned in the first part of the paper, there are four Principles of Sustainable Insurance. The first principle is most widely applied in practice (45,5% of respondents), while the third principle is applied the least (by 27,3% of respondents). When analyzing by country, the first, second, and fourth principles are most applied in Montenegro, while the third principle is most applied in Bosnia and Herzegovina, as shown in Table 1.

Table 1. Degree of application of Principles of Sustainable Insurance in the operations of insurance companies (segmentation by respondents' country)

Principle	Application of the principle in business	Counntry		
		Montenegro	Serbia	Bosnia i Herzegovina
P1	Yes	28	5	5
	No	0	10	5
	I am not familiar	7	15	7
P2	Yes	20	5	7
	No	5	10	7
	I am not familiar	10	15	3
P3	Yes	7	5	10
	No	10	7	2
	I am not familiar	18	18	5
P4	Yes	18	5	2
	No	2	10	10
	I am not familiar	15	15	5

Source: Authors' calculation

Speaking of a business strategy that considers the importance of sustainable development, it turns out that even 60,6% of respondents stated that their company has adopted such a strategy. Here, a certain contradiction arises. Despite the fact that only one-fifth of the respondents are familiar with the Principles of Sustainable Insurance, as many as 60% of respondents state that their company has a strategy that considers sustainable development. This leads to the conclusion that insurance companies do strive to act sustainably but have not sufficiently promoted and/or formally applied the concept themselves, given that only around 20% of respondents, employed in insurance companies, are actually familiar with the concept of sustainability in insurance. The above-mentioned leads to an answer to the first research question. Namely, it can be concluded that employees in insurance companies in analyzed countries are very slightly familiar with the Principles of Sustainable Insurance, with Montenegrin companies having an advantage in familiarity. Furthermore, each of the stated principles is applied to some level in the business operations in all three markets, although many are not formally acquainted with them. This also indicates the need for additional formal education on the Principles of Sustainable Insurance.

Regarding green insurance products, 81,2% of respondents indicate that their company has insurance products in their portfolio with certain green (environmental) characteristics, of which 58,3% are fully familiar with these products. The presence of green insurance products is fairly equal in the markets of Serbia and Montenegro (each at 40,75%), while it is less represented in the market of Bosnia and Herzegovina (18,5%). Some of the products currently present in these markets include crop and fruit insurance, insurance of property with

renewable energy sources, environmental pollution liability insurance, and insurance for micro-transportation means (electric scooters, bicycles, etc.).

Furthermore, in the context of the perspective of introducing new green products into the companies' portfolios, it can be highlighted that, overall, for all three markets, the first product that insurance companies can include in their offer is green car insurance, which involves offering discounts to policyholders insuring hybrid or electric vehicles. Following this, insurance for renewable energy projects is seen as the next product that can be easily added. As the most demanding product to introduce, insurance for the liability of directors and officers of companies polluting the environment is singled out. A more detailed presentation of the responses in this part of the survey is shown in Figure 3. When analyzed by countries, respondents from Montenegro and Bosnia and Herzegovina point out that green car insurance is the next product that can be easily included in the portfolio. According to respondents in Serbia, the product that can be most easily developed is "pay as you drive" motor insurance. Conversely, insurance for the liability of directors and officers of companies polluting the environment is recognized as the product that would require the most effort (in terms of infrastructure, personnel, etc.) to be included in the portfolios of insurance companies from Montenegro and Serbia. In Bosnia and Herzegovina, it is insurance for environmental liability

The first green insurance product that can be included in the portfolio   The last green insurance product that can be included in the portfolio
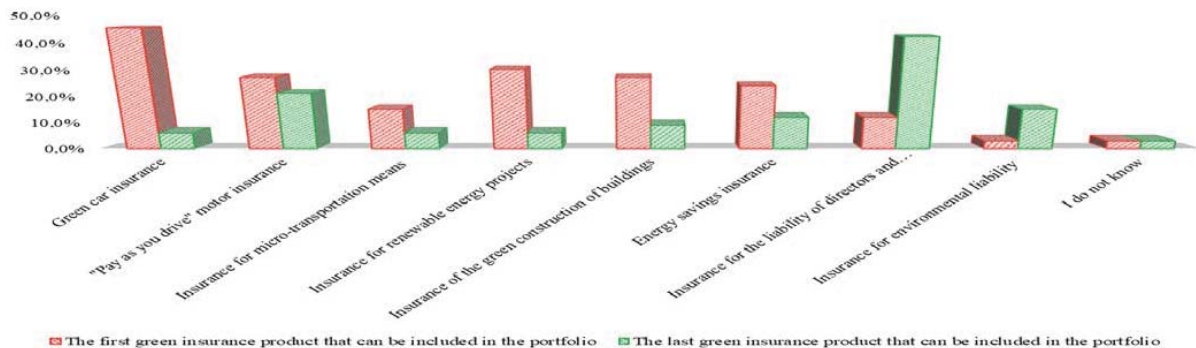
and energy savings insurance. In this way, an answer to RQ2 is provided.

Figure 3. The perspective of the insurance markets in Montenegro, Serbia and Bosnia and Herzegovina for the introduction of certain green insurance products
Source: Authors' calculation

Development of any new product always encounters certain favorable and limiting factors in the market. The same holds true for insurance products. In this context, when it comes to favorable market factors contributing to the development of green insurance, the responses from respondents in all three analyzed countries are mostly consistent. The positive impact on the development of green insurance includes the increasing public interest in climate change and sustainable development, which leads to a growing demand for green insurance products. Furthermore, the current low representation of green insurance products, the fact that more reinsurers plan to introduce restrictive measures for covering so-called "black" energy sources are significant circumstances that can influence the development of these products. Additionally, respondents from Montenegro cite the fact that Montenegro is officially an ecological country as an additional favorable factor, so it is expected that such products will be developed and implemented in the future.

On the other hand, when it comes to limitations on the development of green insurance, key factors include the lack of clear legal regulations in this area, a lack of knowledge about this type of insurance, insufficient current readiness of insurance companies for full

implementation of this type of insurance, the absence of specific subsidies for purchasing green products, and generally, a lack of trust in financial institutions by citizens. Similar to the favorable factors, here we can see that respondents from all three countries provide consistent answers, which is expected given the approximately similar level of development in the insurance market. One positive aspect when analyzing limitations is that only two respondents from the entire sample believe that there is an opinion that "investing in renewable energy sources is a waste of money" or that "the concept of sustainable development is temporary." This outcome shows that sustainable development is our present and future, and respondents are undoubtedly aware of this. In terms of numbers, the average weighted readiness of the insurance market for the introduction of this concept, according to respondents' opinions, ranges from 2,42 for the Serbian market, through 2,93 for the Montenegrin market, to 3,14 for the market in Bosnia and Herzegovina (Figure 4). This confirms the previously stated assertion that the level of insurance markets' development in the analyzed countries is at a roughly similar level.
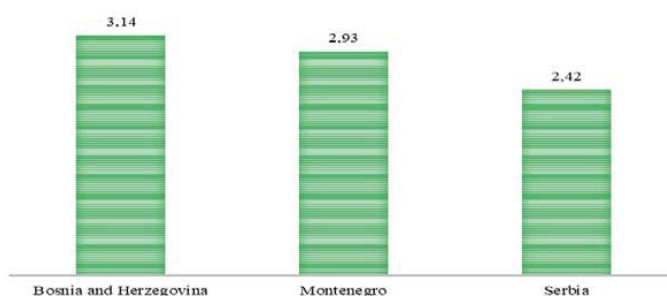
Figure 4. Average readiness of the insurance market in Montenegro, Serbia and Bosnia and Herzegovina for the introduction of green insurance
Source: Authors' calculation

The analysis of the previously mentioned favorable and limiting factors in the market for the introduction of green insurance also provides an answer to the RQ3.

CONCLUSION

Sustainable development and the associated Agenda 2030 have become the central focus of nowadays and the key to the development of a green economy in every country. In this context, insurance, as one of the key factors in enhancing overall economic activity and ensuring financial stability, can contribute to green development through the development and implementation of green insurance. The sustainable insurance sector plays an important and decisive role in the process of sustainable development, as it can reduce potential losses from economic, social and governance issues (ESG issues) through its activities. In this context, insurers face a very demanding challenge - how to implement all the above and create a new view of insurance through the prism of sustainable development.

For the reasons stated above, the aim of this paper was to examine the potential of selected Western Balkan countries, namely Montenegro, Serbia and Bosnia and Herzegovina, for the development of green insurance. By analyzing survey data, the following conclusions can be drawn:

a) When it comes to the Principles of Sustainable Insurance, as a formal framework and starting point for the development of green insurance, employees in insurance companies from Montenegro, Serbia and Bosnia and Herzegovina are very poorly acquainted with them (only 21,2%). The application of these principles in practice exists, as well as the strategy at the company level that considers the concept of sustainable development, in general. This situation indicates the need for greater education of employees in the insurance industry on the topic of green insurance and its impact on the development of the insurance market and the overall economy of a country.

b) The insurance sector can contribute to sustainable development by developing and implementing green insurance products that promote the transition to a "cleaner" and more resource-efficient economy.

c) The first or the first subsequent green insurance product that could be introduced to the markets of Montenegro and Bosnia and Herzegovina is green car insurance, while in Serbia, it is "pay as you drive" motor vehicle insurance. On the other hand, the product that requires the most effort to introduce into the market portfolio is insurance for the liability of directors and officers of companies polluting the environment for Montenegro and Serbia, and insurance for environmental liability and energy savings insurance for Bosnia and Herzegovina.

d) An important positive factor for introducing green products is the growing public interest in the topic of climate change and sustainable development. This further indicates that the level of awareness among citizens about the importance of this issue is increasing.

e) Limitations preventing faster development of this type of insurance include: the absence of clear legal regulations in this area, the absence of appropriate subsidies for the purchase of environmentally friendly products, and a lack of sufficient knowledge about this type of insurance.

By analyzing and processing the obtained survey data, it can be concluded that the current level of development of green insurance in the markets of Montenegro, Serbia and Bosnia and Herzegovina is extremely low. Likewise, knowledge of this concept is not at a satisfactory level. On the other hand, there are certain positive circumstances in the analyzed markets that indicate a huge perspective for the development of this type of insurance, despite the numerous limitations currently encountered.

This paper, by providing an important scientific and practical contribution, also leaves significant area for further research, especially in the context of the Western Balkans and beyond. Therefore, it is expected that the topic of sustainable development and sustainable insurance will be increasingly present and elaborated on both in academic and professional circles.

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KEY MACROECONOMIC DETERMINANTS OF GOVERNMENT DEBT - THE CASE OF NORTH MACEDONIA

Government debt, as an important macroeconomic determinant, has a significant impact on the design of fiscal and monetary policy in a country. Namely, with the emergence of the Corona crisis and the energy crisis which caused: 1) disruption of global supply chains, 2) increase in food and energy prices and 3) disruption of the balance of supply and demand, a large number of countries including The Republic of North Macedonia started to create targeted anti-crisis measures that caused the growth of the budget deficit, and as a result, the growth of the government debt. What is characteristic about North Macedonia is that the growth of the government debt caused the growth of the public debt, whereby it exceeded 60% of the GDP, which also means violation of one of the Maastricht criteria for convergence.

The focus of this paper will be the determination of the effect of the key macroeconomic determinants on the government debt of the Republic of North Macedonia. This research paper uses secondary data from relevant sources such as the Ministry of Finance and the National Bank of North Macedonia, the State Statistics Office and the IMF. In the empirical part of the research, the multiple linear regression model was applied, which incorporates five variables. In the model, government debt as a percentage of GDP is the dependent variable, and the annual economic growth, the average annual inflation rate, the budget deficit (expressed as a percentage of GDP) and the annual amount of FDI (expressed as a percentage of GDP) are independent variables.

Based on the results of the research, it can be concluded that the world crises have a strong impact on the public finances of North Macedonia, and the growth of the budget deficit largely causes the growth of the country's government debt.

Keywords: Government debt, budget deficit, macroeconomic determinants, borrowing

JEL: H61, H62, H63

INTRODUCTION

The government debt, as the largest part of public debt of a country, is an instrument that has a significant impact on the management of the business cycles of a national economy, but also on the management of crises that occur in different forms.

Namely, crises such as the great recession of 2007-2009, the debt crisis of the countries on the periphery of the Eurozone, the occurrence of the Covid-19 pandemic and the energy crisis caused a significant increase in the national debts of the countries, primarily due to: 1) the growth of the budget deficits that arose as a result of the designed measures to deal with the mentioned crises, 2) the reduced economic growth due to problems in the banking sector, the disruption of global supply chains and the growth of inflation and 3) the reduction of the inflow of foreign capital due to the conservative approach of investors.

The Republic of North Macedonia, as a developing country, often faces crisis situations, and in order to solve them, the government borrows both on the domestic and foreign financial markets. With the occurrence of the Corona crisis and the energy crisis, the government of

RNM designed several types of targeted fiscal measures in the direction of supporting the economy, consequently the government debt grew significantly, and the public debt in 2022 exceeded 60% of the country's GDP.

The purpose of this paper is to establish the interdependence of the government debt of RNM and key macroeconomic determinants such as: 1) annual economic growth, 2) inflation, 3) budget deficit and FDI in RNM. It is characteristic and significant that the analysis was carried out using data within the period of 2001 to 2021, which included several fiscal shocks caused by internal and external factors.

The research paper primarily provides an overview of previous research in the area of national government debt and the macroeconomic determinants of the same for developing and developed countries and regional integrations such as the Eurozone. In the following section, an overview of the data, variables and the model applied in the research is provided. The third part refers to the overview of the research results. The fourth part deals with the discussion of the data, policies and estimates of the future movements of the public debt. The last part of the research refers to the concluding observations.

LITERATURE REVIEW

In the literature related to the fiscal policy, one can find several viewpoints and theories about debts, so the classic theory of public debts represented by Adam Smith and David Ricardo indicates that borrowing by the government and government institutions and the creation of a budget deficit represents only an additional problem for the country (Tsoulfidis 2007, p. 3). At the same time, Adam Smith in his work "The Wealth of Nations" calls the creation of a budget deficit as a precursor to borrowing disastrous for the nation. The classical theory is due to an opposition to mercantilism as a form of economic management, from the point of view that government debts lead to an unsustainable form of borrowing that in the long run would cause an increase in tax rates and the taxation of capital (Smith 1937, p.927). Consequently, it can be concluded that an increase in the indebtedness of a national economy leads to: 1) a decrease in the savings of individuals and legal entities, 2) a decrease in investments by economic actors with the exception of the government, 3) a decrease in exports, creating a deficit in the balance of payments. On the other hand, government debts cause an increase in consumption (Gale & Orszag 2004, p.1).

Based on the research conducted by Gale & Orszag (2004), it can be concluded that a 1% increase in the budget deficit of the US federal budget causes a 50-100 basis point increase in the long-term interest rate (which is an empirical confirmation of the negative effects of government debts.

According to the Keynesian approach, which is characterized by the fact that it requires government intervention in economic flows, the government debt, which is the result of the growth of the budget deficit, does not represent a significant problem for the national economy (Phelps 2022, p. 2). This point of view is primarily due to the fact that Keynes focuses on fiscal policy as one of the key instruments for solving a certain crisis.

With the onset of the Great Recession in 2008, the Keynesian theory of public debt was once again the subject of discussion by many economists. Based on the empirical research, it can be concluded that a large part of the countries that were affected, during the great recession, had to create significant budget deficits in order to increase public consumption, i.e. public investments and to neutralize the reduced consumption of households and business entities (Dwyer 2011, p. 5). The fiscal policy set this way caused the growth of the government, and that of public debts, so in the USA the public debt reached a level of about 360% of the GDP (Pollin 2012, p. 2), and some of the countries in the Eurozone where the public debt in 2009 exceeded 79%, noted significant budget deficits such as Greece, which recorded a budget

deficit of 15.8% in 2009 and a public debt of 127.1% (Ali 2012, p. 2). Based on the research and the available data, it can be concluded that the great financial crisis did not have a significant impact on the government debt of the Republic of North Macedonia, primarily because of the up-to-date policies of the government undertaken in order to neutralize the effects.

The Ricardian equivalence, which focuses on government spending and borrowing, indicates that the financing of government expenditures that aim to stimulate economic growth from taxes that can be present and future will not achieve the expected effect because individuals and legal entities that appear in the role of consumers and investors are conservative in investment and consumption (The Business Professor 2023). The decrease in consumption and investments is primarily notable when the government budget deficit as a result of increased spending is financed by debts, namely, individuals and legal entities in this case are aware that the government debt should be paid from future taxes, while they are inclined to savings, and consequently the growth of aggregate demand is neutralized as a result of increased government consumption (Seater 1993, pp.144-145). Put this way, Ricard's theory opposes the Keynesian theory and is highly criticized by a large number of macroeconomists, but despite the neglect and criticism, its validity has been confirmed during the financial crisis of 2008 where the growth of deficits and government debts in 12 European Union countries was positively correlated with the growth of consumer and investor savings (CEPR 2013).

RESEARCH METHODOLOGY

In the research paper, the analysis was made using secondary data. In order to increase relevance, credibility and quality, a series of criteria were taken into account: 1) the source of data (the institution that acts as the publisher of the data), 2) the date of publication of the data, 3) the degree of contribution of the data to the research, 4) the depth of the analysis, etc.

The research is composed of: 1) method of descriptive statistics of the changes in the model for the period 2001-2021, 2) correlation analysis of the dependent variable with the independent variables in the model and 3) a multiple linear regression model with five variables of which one is dependent and four independent variables. In the model, the annual government debt of RNM for the period from 2001 to 2021 is dependently variable, and the annual deficit of the state budget, the average annual inflation rate, the annual economic growth and the annual amount of foreign direct investments are independently variable.

The multiple linear regression is expressed through the formula:

$Y=\beta_0+\beta_1X_1+\beta_2X_2+\ldots+\beta_nX_n$

Y – The value of the dependent variable

β_0 – Constant

$\beta_1, \beta_2, \beta_n$ – Regression coefficients

X_1, X_2, X_n - Value of the independent variables

The regression formula for this research is:

$GGD_t= \beta_0+\beta_1BDE_t+\beta_2INF_t+ \beta_3EGR_t+ \beta_4FDI_t$

t – year spanning from 2001 to 2021

Dependent variable:

- **GGD** – Annual Government Debt of the RNM as a percentage of GDP (Ministry of Finance of RNM)

Independent variables

- **BDE** - Annual state budget deficit as a percentage of GDP (Ministry of Finance of RNM)
- **INF** - The average annual inflation rate (NBRNM)
- **EGR** - Annual economic growth (State Bureau of Statistics)
- **FDI** - Annual amount of foreign direct investments as a percentage of GDP (NBRNM)

Hypotheses
- **Hypothesis 1:** Key macroeconomic determinants have a significant impact on RNM government debt.
- **Hypothesis 1.1:** The state budget deficit has a significant impact on the RNM government debt.
- **Hypothesis 1.2:** Inflation in RNM has a significant impact on RNM government debt.
- **Hypothesis 1.3:** Economic growth has a significant impact on RNM government debt.
- **Hypothesis 1.4:** Foreign direct investments have a significant impact on RNM government debt.

RESEARCH RESULTS

Based on the data from Table 1, it can be concluded that the average annual government debt of RNM for the period from 2001 to 2021 is 35.% of GDP, in most years the government debt amounts to 40.4% of GDP. The distribution of government debt is flatter than normal that in most of the years its amount not deviates from the mean value, and the distribution of frequencies has a positive symmetry to the right, that in most years its value is greater than the mean value. The average annual economic growth is 2.2% of GDP, the distribution is more prominent than normal, where in most years the economic growth does show a significant deviation from the mean value, and in most years the economic growth is lower than the mean value. The average annual inflation rate during the observed period is 1.9%, and in most years the inflation rate is higher than average. The average annual budget deficit is 2.8%, the distribution of the budget deficit is more flattened than normal, and in most years the budget deficit rate not deviates from the mean value, according to the frequency schedule, in most years the budget deficit rate is higher than the average rate. The average annual rate of FDI in relation to GDP is 4.1%. According to the distribution of the FDI rate, it can be concluded that in most years it does deviate from the mean value, and the distribution of frequencies indicates that in several years the FDI rate is higher than average.

Table 1: Descriptive statistics of the variables

	GGD (% of GDP)	EGR	INF	BDE (% of GDP)	FDI (% of GDP)
Mean	35,8047619	2,247619048	1,921428571	2,80952381	4,057142857
Standard Error	1,883922911	0,650516976	0,472865775	0,44805956	0,584016121
Median	36,7	2,8	1,5	2,6	3,1
Mode	40,4	4,7	2,3	5,6	2,4
Standard Deviation	8,633219341	2,981043282	2,166943206	2,053266851	2,676298083
Sample Variance	74,53247619	8,886619048	4,695642857	4,215904762	7,162571429
Kurtosis	-0,146934454	1,993319705	2,467172809	-0,65268011	4,519110331
Skewness	0,061418261	-1,288639324	1,310305091	0,428812764	1,936394416

Range	32,8	12,6	9	7	11,2
Minimum	20,6	-6,1	-0,7	-0,2	1,5
Maximum	53,4	6,5	8,3	6,8	12,7
Sum	751,9	47,2	40,35	59	85,2
Count	21	21	21	21	21
Largest(1)	53,4	6,5	8,3	6,8	12,7
Smallest(1)	20,6	-6,1	-0,7	-0,2	1,5
Confidence Level(95,0%)	3,929794329	1,356954633	0,986380721	0,934635865	1,218236282

Source: Author's calculation (Excel)

According to the data from Table 2, it can be concluded that the government debt has the strongest correlation with the budget deficit in relation to the other variables, and the weakest correlation with foreign direct investments. Government debt also records a significant degree of correlation with economic growth, as it is negative.

Table 2: Tabular representation of the degrees of correlation between variables

	GGD (% of GDP)	EGR	INF	BDE (% of GDP)	FDI (% of GDP)
GGD (% of GDP)	1				
EGR	-0,419110891	1			
INF	-0,199175096	0,04290855	1		
BDE (% of GDP)	0,630077931	-0,699977461	0,106372771	1	
FDI (% of GDP)	-0,027949959	0,099727608	0,510349598	-0,010294785	1

Source: Author's calculation

According to the regression statistics, there is a strong relationship between the government debt and the independent variables in the model (Multiple R=0.70), and 36.5% of the variability of the dependent variable is explained by the variability of the independent variables.

Table 3: Regression statistics

Multiple R	0,701285267
R Square	0,491801026
Adjusted R Square	0,364751282
Standard Error	6,880890927
Observations	21

Source: Author's calculation (Excel)

Based on the results of the regression analysis (Table 4), it can be concluded that the budget deficit has a significant impact on the government debt of the country, namely the growth of the budget deficit causes the growth of the government debt.

Table 4: Regression results

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%

Intercept	27,18717524	4,908460405	5,538839675	4,49143E-05	16,78170401	37,592646
EGR	0,283922575	0,733804476	0,386918566	0,703914239	-1,271673421	1,8395186
INF	-1,436107349	0,838363261	-1,712989363	0,106021258	-3,21335807	0,3411434
BDE (% of GDP)	3,105661931	1,069121676	2,904872291	0,010335941	0,839225226	5,3720986
FDI (% of GDP)	0,49625648	0,671364995	0,739175387	0,470506601	-0,926973731	1,9194867

Source: Author's calculation (Excel)

DISCUSSION

The results of the research indicate that the average annual government debt of the Republic of North Macedonia in the period from 2001 to 2021 is 35.8%, which indicates that the governments of the country had control, considering the fact that a large part of the countries in the region and Europe have recorded significantly higher debts, especially during the crises. According to the correlation analysis, the country's government debt has a strong positive correlation with the budget deficit, and a negative correlation with economic growth, inflation and foreign direct investments. Based on the regression analysis, the growth of 1% of the budget deficit causes a growth of the government debt of 3.1%, which means that the budget deficit has a significant impact on the government, consequently hypothesis 1.1 is accepted. According to the regression, the other variables do not have a significant impact on the government debt. The results of the research confirm the view of Adam Smith and David Ricardo that the budget deficit is a problem for the nation because the budget deficit causes governments to borrow. On the other hand, considering the fact that the governments of the Republic of North Macedonia have government debts under control and it has not seen a strong growth like in some countries, it can be stated that the theory of Keynes, which indicates that exactly the budget deficit and government debts are the most significant instrument for solving economic crises and do not contribute to jeopardizing the national economy. There are methodological limitations in this research, primarily due to the fact that only the macroeconomic parameters of the Republic of North Macedonia were taken as independent variables, and the interest rate on the financial markets was not taken into account. Future research should take into consideration the situation in international financial flows, the credit rating of the country and the macroeconomic situation of the countries of the region and the countries of the Eurozone.

CONCLUSION

The Republic of North Macedonia, like almost every country, faces government debts, although it is often used as an instrument to solve certain macroeconomic problems, it can also cause macroeconomic instability. Government debts as a macroeconomic phenomenon is determined by several factors, but to a large extent it is directly dependent on the budget deficit. Namely, the results of this research indicate a positive correlation between the RNM budget deficit and the government debt. Also, the regression analysis confirmed the point of view of a large number of macroeconomic theorists that the growth of the budget deficit causes a significant growth of the government debt. Consequently, the RNM government, in order to maintain a stable level of government debt, must create macroeconomic, especially tax policies that will contribute to making the budget liquid, which would avoid the growth of the deficit.

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ASSESSMENT OF BANK EFFICIENCY IN SERBIA THROUGH THE UTILIZATION OF THE DEA SUPER-RADIAL MODEL

Abstract

Investigating factors affecting bank efficiency poses substantial challenges, particularly when employing the Data Envelopment Analysis (DEA) approach. With this in consideration, the paper analyses the bank efficiency in Serbia utilizing the DEA Super-Radial model. The empirical findings shed light on the inefficiency prevalent across all banks in Serbia, as indicated by the Super-CCR-I and Super-CCR-O models. Notably, based on Super-BCC-I model, only one bank, Banca Intesa, demonstrates efficiency, while the Super-BCC-O model identifies three efficient banks: API bank, Bank of China Serbia, and Mirabank. Conversely, the remaining banks exhibit inefficiency.
Bank efficiency in Serbia is influenced by numerous macro and micro determinants. The Covid-19 pandemic, among other factors, has significantly impacted the efficiency of banks in Serbia by precipitating a decline in economic and credit activities. Moreover, the escalation in inflation rates and interest rates has exerted a notable influence, attributable to the pervasive political and energy crisis experienced on a global scale. To enhance bank efficiency in future, effective management of resources (such as employee count, assets, and capital), sales, and profit is imperative. Additionally, the digitalization of the entire business process assumes a crucial role in this endeavour.

Keywords: bank, DEA Super-Radial model, efficiency, Serbia

JEL: D40, G21

INTRODUCTION

The investigation of factors influencing bank efficiency is of current, significant, and intricate interest. Within this study, the research subject pertains to the analysis of the impact of variables such as the number of employees, total assets, capital, revenue, and profit on the efficiency of banks in Serbia. In pursuit of this objective, the study employs DEA (Data Envelopment Analysis) Super-Radial models. The overarching goal is to comprehensively comprehend their influence on bank efficiency in Serbia, with the intention of enhancing future practices through the implementation of appropriate measures.

The literature related to the development and significance of DEA models is notably abundant (Andersen & Petersen, 1993; Banker, Charnes, & Cooper, 1984; Chen et al., 2021; Chang & Wang, 2020; Guo & Cai, 2020; Lee, Chu, & Zhu, 2011; Lin, 2020; Podinovski & Bouzdine-

Chameeva, 2021; Tone, 2002; Pendharkar, 2021; Rostamzadeh et al., 2021; Fenyves & Tarnóczi, 2020; Tsai, Lee, & Gan, 2021). These models have been successfully applied in the analysis of efficiency within banks and insurance companies (Savić, Radosavljević, & Ilievski, 2012; Maletić, Kreća, & Maletić, 2013; Radojicic, Savic, & Jeremic, 2018; Cvetkoska & Savić, 2017; Cvetkoska & Fotova Čiković, 2020; Cvetkoska, Fotova Ciković, & Tasheva, 2021). This holds true for the literature within Serbia as well (Lukic, Sokic, & Vojteski Kljenak, 2017; Lukić & Hadrović Zekić, 2019; Lukić, 2018a, 2018b, 2021a, 2021b, 2021c, 2022; Vojteski Kljenak & Lukić, 2022). All the aforementioned literature concerning DEA models serves as the theoretical-methodological and empirical foundation for the analysis of bank efficiency in Serbia through the utilization of DEA Super-Radial models within this study. The continuous monitoring of bank efficiency in Serbia facilitates prospective enhancements through the implementation of suitable measures, embodying the fundamental research hypothesis of this study.

Methodologically, the application of the DEA Super-Radial model assumes a significant role. Additionally, to a certain extent, statistical analysis is employed in this study. The requisite empirical data for investigating the addressed issue in this study were sourced from the National Bank of Serbia. These data align with pertinent international standards, thereby eliminating any constraints with regard to comparison.

METHODOLOGY

The research conducted within this paper pertaining to the efficiency assessment of banks in Serbia is centered upon the application of the DEA Super-Radial model. In that regard, we shall briefly expound upon its methodological characteristics. Let us consider a set of n DMUs $\{DMU_j \ (j = 1,2,...,n)\}$. Each of these entities expends a collection of m inputs, denoted as x_{ij} ($i = 1,2,...,m$), to yield a set of s outputs, denoted as Y_{rj} ($r = 1,...,s$). Grounded in the framework of the Variable Return to Scale (VRS) model as introduced by Banker, Charnes, and Cooper in 1984, an input-oriented VRS super-efficient model for the quantification of efficiency can be formally expressed as follows:

$$\min \quad \theta$$

$$s.t \sum_{\substack{j=1 \\ j \neq k}}^{n} \lambda_j \, x_{ij} \leq \theta x_{ik}, \qquad i = 1, ..., m$$

$$\sum_{\substack{j=1 \\ j \neq k}}^{n} \lambda_j y_{rj} \geq y_{rk}, \qquad r = 1, ..., s \qquad (1)$$

$$\sum_{j=1}^{n} \lambda_j = 1$$

$$j \neq k$$

$$\lambda \geq 0, \quad j \neq k$$

RESULTS AND DISCUSSION

The efficiency of banks in Serbia will be examined based on the DEA Super-Radial model with input and output orientations, incorporating both constant and variable returns. Various input/output elements for assessing the efficiency of enterprises (Peykani et al., 2022a, 2022b) and banks (Savić, Radosavljević, & Ilievski, 2012; Cvetkoska & Savić, 2017; Cvetkoska & Fotova Čiković, 2020; Cvetkoska, Fotova Ciković, & Tasheva, 2021; Milenković et al., 2022) are mentioned in the literature. In this study, the selected input elements encompass: the number of employees, total assets, and total capital. As for the output elements, they consist of: total net operating income and profit/loss for the period. These elements are employed due to their alignment with the particularities of bank operating and serve as effective indicators of bank efficiency and financial performance. Furthermore, empirical data are available. The National Bank of Serbia regularly releases financial reports and other pertinent information concerning banks in Serbia. Table 1 presents the initial data for the analysis of bank efficiency in Serbia for the year 2021 using the DEA Super-Radial model.

Table 1. *Initial data, 2021*

	(I) No. of employees	(I) Assets	(I) Capital	(O) Total net operating income	(O) Profit/loss for the period
API banka	83	12343	1740	418	-198
Addiko Bank	544	102681	23336	5143	243
AIK banka	623	256962	55053	10525	5944
Banca Intesa	3050	742407	119924	30182	10371
Bank of China Srbija	28	33863	1985	549	82
Banka poštanska štedionica	2591	348119	28736	12600	2203
Crédit Agricole banka Srbija	870	166767	15386	6579	1708
Erste Bank	1237	319597	37300	10528	2409
Eurobank Direktna	1757	290311	37574	7225	414
Expobank	130	16771	3383	634	29
Halbank	606	99797	16127	3652	889
ALTA banka	160	33242	4059	751	11
Komercijalna banaka	2906	485440	75642	18365	3645
MIRABANK	41	6285	2050	131	-204
NLB banka	2725	84082	9214	3791	506
OTP Banka Srbija	2732	665598	91013	21081	5756
3 BANKA	527	21703	4253	2396	400
ProCredit Bank	387	155339	17725	3927	469
Raiffeisen banka	1508	432656	58471	16981	6857
Naša AIK banka	699	194157	26723	5772	1768
Srpska banka	73	19940	3353	542	16
Mobi Banka	535	24491	3634	1531	-412
Unicredit Bank Srbija	1337	53878	83991	17615	5875

Note: The data is given in millions of Serbian dinars. The number of employees is expressed as a whole number.
Source: National Bank of Serbia

Table 2 displays the descriptive statistics of input/output data.

Table 2. *Descriptive statistics of input/output data*

Statistics					
		No. of employees	Assets	Capital	Total net operating income	Profit/loss for the period
N	Valid	23	23	23	23	23

	Missing	0	0	0	0	0
Mean		1093.4348	198540.3913	31333.5652	7866.0000	2120.9130
Median		623.0000	102681.0000	17725.0000	5143.0000	506.0000
Std. deviation		1035.67794	214089.78550	33827.67166	8137.36922	2907.63102
Skewness		.833	1.287	1.250	1.234	1.464
Std. error of skewness		.481	.481	.481	.481	.481
Kurtosis		-.760	.936	.751	1.016	1.516
Std. error of kurtosis		.935	.935	.935	.935	.935
Minimum		28.00	6285.00	1740.00	131.00	-412.00
Maximum		3050.00	742407.00	119924.00	30182.00	10371.00

Note: Authors' calculation

Accordingly, within the observed year in Serbia, a marginal number of banks achieved a business outcome exceeding the average. In that regard, Banca Intesa emerged as the most proficient, while Mobi Banka stood as the least proficient. The discernible impact on the financial (profitability) performance of banks in Serbia was, among other factors, attributed to the Covid-19 pandemic. The correlation matrix of input/output data is presented in Table 3.

Table 3. *Correlations of input/output data*

Correlations						
		1	2	3	4	5
1 No. of employees	Pearson Correlation	1	.802[**]	.726[**]	.800[**]	.617[**]
	Sig. (2-tailed)		.000	.000	.000	.002
	N	23	23	23	23	23
2 Assets	Pearson Correlation	.802[**]	1	.853[**]	.900[**]	.799[**]
	Sig. (2-tailed)	.000		.000	.000	.000
	N	23	23	23	23	23
3 Capital	Pearson Correlation	.726[**]	.853[**]	1	.974[**]	.930[**]
	Sig. (2-tailed)	.000	.000		.000	.000
	N	23	23	23	23	23
4 Total net operating income	Pearson Correlation	.800[**]	.900[**]	.974[**]	1	.934[**]
	Sig. (2-tailed)	.000	.000	.000		.000
	N	23	23	23	23	23
5 Profit/loss for the period	Pearson Correlation	.617[**]	.799[**]	.930[**]	.934[**]	1
	Sig. (2-tailed)	.002	.000	.000	.000	
	N	23	23	23	23	23
** Correlation is significant at the 0.01 level (2-tailed).						

Note: Authors' calculation

Hence, there is a strong correlation between input/output data, attaining statistical significance. Table 4 illustrates the efficiency of banks in Serbia using the Super-CCR-I and Super-CCR-O models.

Table 4. *Bank efficiency in Serbia (Super-CCR-I and Super-CCR-O)*

		Model Name = DEA-Solver LV(V7)/ Super-Radial (**Super-CCR-I**) Returns to Scale = Constant (0 =< Sum of Lambda < Infinity)		Model Name = DEA-Solver LV(V7)/ Super-Radial (**Super-CCR-O**) Returns to Scale = Constant (0 =< Sum of Lambda < Infinity)	
No.	DMU	Score	**Rank**	Score	**Rank**
1	API banka	0.658202	18	0.658202	18
2	Addiko Bank	0.842109	10	0.842109	10
3	AIK banka	2.098253	2	2.098253	2
4	Banca Intesa	0.894869	7	0.894869	7
5	Bank of China Srbija	1.315115	4	1.315115	4

6	Banka poštanska štedionica	0.885173	8	0.885173	8
7	Crédit Agricole banka Srbija	1.129016	5	1.129016	5
8	Erste Bank	0.86979	9	0.86979	9
9	Eurobank Direktna	0.521686	22	0.521686	22
10	Expobank	0.590906	20	0.590906	20
11	Halbank	0.693385	17	0.693385	17
12	ALTA banka	0.534053	21	0.534053	21
13	Komercijalna banaka	0.733015	15	0.733015	15
14	MIRABANK	0.265497	23	0.265497	23
15	NLB banka	0.730322	16	0.730322	16
16	OTP Banka Srbija	0.75782	12	0.75782	12
17	3 BANKA	1.766054	3	1.766054	3
18	ProCredit Bank	0.800083	11	0.800083	11
19	Raiffeisen banka	1.084771	6	1.084771	6
20	Naša AIK banka	0.742454	14	0.742454	14
21	Srpska banka	0.613289	19	0.613289	19
22	Mobi Banka	0.747823	13	0.747823	13
23	Unicredit Bank Srbija	5.063809	1	5.063809	1
	No. of DMUs in Data =	23		23	
	No. of DMUs with inappropriate Data =	0		0	
	No. of evaluated DMUs =	23		23	
	Average of scores =	1.058152		1.058152	
	No. of efficient DMUs =	0		0	
	No. of inefficient DMUs =	23		23	

Note: Authors' calculation

The DMU unit (in our case, a bank) is considered efficient if the score value is equal to 1. Conversely, if the score value surpasses or falls short of 1, the DMU unit is deemed inefficient. For example, the score value for the DMU unit – API Bank in both DEA Super-Radial models with constant returns is 0.658202. Since the score value is less than 1, the bank is regarded as inefficient. To be precise, it is 66% efficient and 44% inefficient. To enhance the efficiency of API Bank, it is imperative, among other measures, to adeptly manage the input/output elements. A similar efficiency analysis is conducted for other DMU units, that is, banks, based on the DEA Super-Radial model.

According to the Super-CCR-I and Super-CCR-O models, all banks in Serbia are inefficient. Therefore, in order to enhance their efficiency in the future, it is essential to, among others, manage resources (such as the number of employees, assets, and capital), revenues, and profits more effectively. Significant roles in this endeavor are also played by the complete digitization of operations.

Table 5 shows the efficiency of banks in Serbia using the Super-BCC-I and Super-BCC-O models.

Table 5. *Bank efficiency in Serbia (Super-BCC-I and Super-BCC-O)*

		Model Name = DEA-Solver LV(V7)/ Super-Radial (**Super-BCC-I**) Returns to Scale = Variable (Sum of Lambda = 1)		Model Name = DEA-Solver LV(V7)/ Super-Radial (**Super-BCC-O**) Returns to Scale = Variable (Sum of Lambda = 1)	
No.	DMU	Score	**Rank**	Score	**Rank**
1	API banka	1.258624	7	1	8
2	Addiko Bank	0.848673	15	0.847114	15

3	AIK banka	2.100409	3	2.118519	3
4	Banca Intesa	1	10	1.618283	4
5	Bank of China Srbija	2.431199	2	1	8
6	Banka poštanska štedionica	1.40329	6	1.285441	5
7	Crédit Agricole banka Srbija	1.159762	9	1.152834	7
8	Erste Bank	0.872584	13	0.88117	11
9	Eurobank Direktna	0.527485	23	0.57739	23
10	Expobank	0.969065	11	0.770871	19
11	Halbank	0.709573	21	0.700402	21
12	ALTA banka	0.658586	22	0.582478	22
13	Komercijalna banaka	0.843719	16	0.876558	12
14	MIRABANK	2.007337	4	1	8
15	NLB banka	0.824842	18	0.862004	14
16	OTP Banka Srbija	0.833482	17	0.863322	13
17	3 BANKA	1.925948	5	2.940631	2
18	ProCredit Bank	0.819637	19	0.824805	16
19	Raiffeisen banka	1.23228	8	1.203934	6
20	Naša AIK banka	0.74761	20	0.74557	20
21	Srpska banka	0.948706	12	0.782511	18
22	Mobi Banka	0.867922	14	0.802079	17
23	Unicredit Bank Srbija	7.731826	1	5.072432	1
	No. of DMUs in Data =	23		23	
	No. of DMUs with inappropriate Data =	0		0	
	No. of evaluated DMUs =	23		23	
	Average of scores =	1.42272		1.239493	
	No. of efficient DMUs =	1		3	
	No. of inefficient DMUs =	22		20	
	No. of over iteration DMUs =	0		0	

Note: Authors' calculation

According to the Super-BCC-I model, only one bank, Banca Intesa, was efficient in Serbia. The remaining banks in Serbia were inefficient. According to the Super-BCC-O model, only three banks were efficient: API Bank, Bank of China Serbia, and MIRABANK. The rest of the banks in Serbia were inefficient. The efficiency of banks in Serbia was significantly affected, among other factors, by the Covid-19 pandemic, which resulted in decreased economic and credit activities. The impact of the Covid-19 pandemic was slightly mitigated by electronic banking. The projection of input/output element values is presented in Table 6, solely for illustrative purposes, for the application of the Super-BCC-O model. A similar analysis of projections applies to other Super-Radial models.

Table 6. *Projection*

No.	DMU	Score	Model = DEA - Solver LV(V7)/ Super-Radial(Super-BCC-O) Returns to Scale = Variable (Sum of Lambda = 1)								
			(I)No. of employees		(I)Assets		(I)Capital		(O)Total net operating income		(O)Profit/loss for the period	
			Projection	Change(%)	Projection	Change(%)	Projection	Change(%)	Projection	Change(%)	Projection	Change(%)
1	API banka	1	82.99643	0.00%	12343	0.00%	1740	0.00%	418	0.00%	-198	0.00%
2	Addiko Bank	0.847114	544	0.00%	102681	0.00%	23336	0.00%	6071.204	18.05%	2002.864	724.22%

#	Bank											
3	AIK banka	2.11 8519	623	0.00 %	1941 88.3	-24.4 3%	2469 3.89	-55.1 5%	7155 .106	-32.0 2%	2805 .734	-52.8 0%
4	Banca Intesa	1.61 8283	2006 .445	-34.2 1%	5275 16.2	-28.9 5%	7172 2.97	-40.1 9%	1865 0.63	-38.2 1%	6408 .643	-38.2 1%
5	Bank of China Srbija	1	28	0.00 %	3386 2.07	0.00 %	1985	0.00 %	549. 0322	0.01 %	82	0.00 %
6	Banka poštanska štedionica	1.28 5441	1067 .686	-58.7 9%	2491 53.4	-28.4 3%	2873 6	0.00 %	9802 .087	-22.2 1%	3303 .431	-49.9 5%
7	Credit Agricole banka Srbij	1.15 2834	870	0.00 %	1183 87.1	-29.0 1%	1538 6	0.00 %	5706 .804	-13.2 6%	1628 .688	-4.64 %
8	Erste Bank	0.88 117	1237	0.00 %	3047 65.2	-4.64 %	3730 0	0.00 %	1194 7.75	13.4 9%	4296 .196	78.3 4%
9	Eurobank Direktna	0.57 739	1757	0.00 %	2903 11	0.00 %	3757 4	0.00 %	1251 3.21	73.1 9%	3516 .898	749. 49%
10	Expobank	0.77 0871	130	0.00 %	1677 1	0.00 %	3383	0.00 %	822. 4468	29.7 2%	37.6 1981	29.7 2%
11	Halbank	0.70 0402	606	0.00 %	9979 7	0.00 %	1612 7	0.00 %	5214 .151	42.7 8%	1429 .64	60.8 1%
12	ALTA banka	0.58 2478	160	0.00 %	3324 2	0.00 %	4059	0.00 %	1289 .319	71.6 8%	267. 2625	999. 90%
13	Komercijalna banka	0.87 6558	2638 .889	-9.19 %	4854 40	0.00 %	7564 2	0.00 %	2095 1.27	14.0 8%	6247 .602	71.4 0%
14	MIRABANK NK	1	41	0.00 %	6285	0.00 %	2049 .976	0.00 %	131	0.00 %	-203. 995	0.00 %
15	NLB banka	0.86 2004	923. 65	-66.1 0%	8408 2	0.00 %	9214	0.00 %	4397 .89	16.0 1%	763. 8931	50.9 7%
16	OTP Banka Srbija	0.86 3322	2732	0.00 %	6112 37.4	-8.17 %	9101 3	0.00 %	2441 8.46	15.8 3%	8059 .865	40.0 3%
17	3 BANKA	2.94 0631	133. 4912	-74.6 7%	2170 3	0.00 %	4253	0.00 %	814. 7911	-65.9 9%	136. 0252	-65.9 9%
18	ProCredit Bank	0.82 4805	387	0.00 %	1348 11.9	-13.2 1%	1772 5	0.00 %	4761 .127	21.2 4%	1936 .1	312. 81%
19	Raiffeisen banka	1.20 3934	1296 .297	-14.0 4%	3476 48.8	-19.6 5%	5847 1	0.00 %	1410 4.6	16.9 4%	5695 .497	16.9 4%
20	Naša AIK banka	0.74 557	699	0.00 %	1941 57	0.00 %	2672 3	0.00 %	7741 .725	34.1 3%	2918 .798	65.0 9%
21	Srpska banka	0.78 2511	73	0.00 %	1994 0	0.00 %	3353	0.00 %	692. 6417	27.7 9%	20.4 4699	27.7 9%
22	Mobi Bank	0.80 2079	417. 6365	-21.9 4%	1939 7.39	-20.8 0%	3634	0.00 %	1908 .79	24.6 8%	252. 7073	161. 34%
23	Unicredit Bank Srbija	5.07 2432	540. 1242	-59.6 0%	5387 8	0.00 %	1120 0.62	-86.6 6%	3507 .739	-80.0 9%	1158 .222	-80.2 9%

Note: Authors' calculation

The projection illustrates the deviation of realized values across all input/output elements from the projection itself. In that regard, the adoption of efficacious measures can be undertaken to minimize given discrepancies in pursuit of achieving the desired efficiency. In the concrete case, Banca Intesa has exhibited greater values across all input/output elements

in comparison to the projected values. By diminishing its workforce by 34.21%, total assets by 28.95%, capital by 40.19%, overall net operating income by 38.21%, and profit by 38.21%, the realized values are brought into alignment with the projected values, thereby serving the purpose of attaining the intended efficiency. A comparable analysis of projections is extended to other banks within Serbia, treated as DMUs.

With the aim of conducting a comprehensive analysis of bank efficiency in Serbia using the DEA Super-Radial model, we will further elucidate the Slack analysis, employing the illustrative case of the Super-Radial (Super-BCC-O) Returns to Scale. The Slack analysis serves to unveil the measures that ought to be undertaken to facilitate the transformation of inefficient DMUs into efficient ones. The presentation of Slack data is contained in Table 7.

Table 7. *Slack data*

No.	DMU	Score	Excess No. of employees S-(1)	Excess Assets S-(2)	Excess Capital S-(3)	Shortage Total net operating income S+(1)	Shortage Profit/loss for the period S+(2)
1	API banka	1	3.57E-03	0	0	0	3.48E-05
2	Addiko Bank	0.847114	0	0	0	0	1716.007
3	AIK banka	2.118519	0	62773.7	30359.11	2187.013	0
4	Banca Intesa	1.618283	1043.555	214890.8	48201.03	0	0
5	Bank of China Srbija	1	0	0.932618	0	3.22E-02	0
6	Banka poštanska štedionica	1.285441	1523.314	98965.6	0	0	1589.622
7	Crédit Agricole banka Srbija	1.152834	0	48379.93	0	0	147.122
8	Erste Bank	0.88117	0	14831.84	0	0	1562.331
9	Eurobank Direktna	0.57739	0	0	0	0	2799.878
10	Expobank	0.770871	0	0	0	0	0
11	Halbank	0.700402	0	0	0	0	160.3683
12	ALTA banka	0.582478	0	0	0	0	248.3776
13	Komercijalna banaka	0.876558	267.1108	0	0	0	2089.29
14	MIRABANK	1	0	0	0.023546	0	4.56E-03
15	NLB banka	0.862004	1801.35	0	0	0	176.889
16	OTP Banka Srbija	0.863322	0	54360.58	0	0	1392.599
17	3 BANKA	2.940631	393.5088	0	0	0	0
18	ProCredit Bank	0.824805	0	20527.11	0	0	1367.481
19	Raiffeisen banka	1.203934	211.703	85007.25	0	0	0
20	Naša AIK banka	0.74557	0	0	0	0	547.4587
21	Srpska banka	0.782511	0	0	0	0	0
22	Mobi Banka	0.802079	117.3635	5093.606	0	0	766.3726
23	Unicredit Bank Srbija	5.072432	796.8758	0	72790.38	35.04597	0

Note: Authors' calculation

Table 7 elucidates the methodology for transforming inefficient DMUs into efficient ones, outlining the necessary measures to be undertaken in that direction. For example, in the pursuit of enhancing the efficiency of the DMU Banca Intesa, it is imperative to reduce the workforce by 1043.55, total assets by 214890.8, and capital by 48201.03 monetary units. A

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similar approach is employed for the Slack analysis of the other analyzed banks within Serbia, considered as DMUs.

CONCLUDING REMARKS

Based on the conducted empirical research on bank efficiency in Serbia utilizing the DEA Super-Radial model, the following conclusions can be drawn:

- According to the Super-CCR-I and Super-CCR-O models, all banks in Serbia exhibited inefficiencies.
- According to the Super-BCC-I model, only one bank, namely Banca Intesa, was efficient, while the remaining banks in Serbia demonstrated inefficiencies.
- According to the Super-BCC-O model, only three banks – API Bank, Bank of China Serbia, and MIRABANK – were efficient. The remaining banks in Serbia displayed inefficiencies.

The efficiency of banks in Serbia has been influenced by numerous macro and micro factors. Within this context, it is essential to underscore the current global impact of political and energy crises, leading to increased inflation and interest rates. This, in turn, results in reduced economic and credit activities, affecting the efficiency of banks worldwide, including Serbia. Efficiently controlling critical factors of business success (such as pricing, costs, quality, growth, innovation, etc.) can significantly contribute to achieving the targeted efficiency of banks in Serbia. To enhance bank efficiency in Serbia in the future, effective management of input/output elements is imperative, encompassing human resources (training, career advancement, incentives, health and social benefits), assets, capital, sales, and profits. Undoubtedly, the digitization of entire operations plays a substantial role in this endeavor.

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EXPLORING THE RELATIONSHIP BETWEEN WORKING CAPITAL MANAGEMENT AND PROFITABILITY: EVIDENCE FROM DEVELOPING ECONOMIES IN SOUTHEASTERN EUROPE

ABSTRACT

Efficient working capital management plays a crucial role in determining a company's financial sustainability and performance. By effectively managing components such as accounts receivable, inventory, and accounts payable, firms can optimize their liquidity, reduce financing costs, and improve profitability. The study reviews previous research, highlighting key findings related to working capital management's impact on profitability. Further through an empirical analysis study analyses previously mentioned relationship on the sample of 18 manufacturing companies from stock exchanges in the Southeast European region, namely Zagreb Stock Exchange (ZSE), Belgrade Stock Exchange (BELEX), Banja Luka Stock Exchange (BLSE), and Sarajevo Stock Exchange (SASE). The period under analysis spans from 2018 to 2022. For the purpose of the analysis study employs different data analysis techniques (Pooled Ordinary Least Squares (OLS) regression, fixed effects model, and random effects model), where Pooled OLS regression analysis emerged as the most appropriate model. The OLS estimation reveals a statistically significant relation between all explanatory variables and return on assets. Specifically, the cash conversion cycle exhibits a notable negative correlation with working capital management. Furthermore, both sales growth and firm size demonstrate positive correlations with ROA, whereas the debt ratio displays a significant negative correlation with ROA.

Keywords: working capital management, liquidity, profitability, cash conversion cycle

JEL: L25, Q01

INTRODUCTION

Working capital management constitutes one of the three focal points of corporate financial management (alongside investment decision-making and investment project management, as well as the establishment and management of the financing structure). Despite being an immensely crucial realm of management (given that a company's assets primarily consist of current assets rather than fixed assets), it still fails to garner adequate attention from both the scientific and even the professional-expert public. The deficiency in interest likely arises from

the more direct linkage between investments and sources of funding with profitability and company value. Namely, investment projects generate profits, while financing sources incur costs. By selecting more profitable projects on one hand, and more cost-effective sources of funding on the other, management directly contributes to the company's value and the generation of shareholders' wealth.

However, this by no means implies that working capital management should be neglected, either as a managerial discipline or as a scientific-research concern. Indeed, working capital management is an endeavor (or more precisely, an amalgamation of activities) that demands substantial dedication, resource utilization, energy, and time. This undoubtedly justifies professional interest. On the other hand, the scientific-research interest is focused on investigating the impact of efficient working capital management on a company's profitability and consequently its value. Having in mind the identified lack of research on the given topic, main aim of this analysis is to assess the influence of working capital management on the profitability of manufacturing companies in Southeastern Europe with focus on manufacturing companies listed on the Zagreb Stock Exchange (ZSE), Belgrade Stock Exchange (BELEX), Banja Luka Stock Exchange (BLSE), and Sarajevo Stock Exchange (SASE). Study covers period from 2018 to 2022.

THEORETHICAL BASIS AND LITERATURE REVIEW

In the realm of working capital management, two pivotal questions emerge (Van Horne & Wachowicz, 2009):

1. What is the optimal level of working capital for a company?
2. How should the investment in working capital be financed?

Starting from the perspective that working capital is the differential between current assets and short-term liabilities, the resolution of the first inquiry is more likely to be found within asset management rather than in short-term obligations. Notably, the extent and maturity of short-term liabilities in the majority of companies are determined by the scope of operations (production), making it challenging for financial management to exert a substantial influence in this regard. Conversely, the magnitude and composition of current assets are directly under the purview of the company's management. Recognizing that current assets encompass inventory, receivables, and cash (including cash equivalents), the company's management determines the level of each of these asset components in line with business policy, market positioning, and preferences concerning business risk. In the pursuit of optimizing the level of working capital (as encapsulated by the initial inquiry), management must strike a delicate trade-off between profitability and the business risk to which the company is exposed. A higher level of current assets translates to reduced exposure to diverse forms of business risk.

- An elevated inventory level ensures production and product placement continuity, thereby mitigating technological risk (uneven capacity utilization or production disruptions) as well as reputational risk (inadequate fulfillment of customer orders).
- A heightened level of receivables results from augmented sales with deferred payment or extended payment terms for customers. The curtailment of payment terms exposes the company to the risk of losing market share.
- A heightened cash position (inclusive of securities regarded as cash equivalents) diminishes liquidity risk and ensures seamless day-to-day operations for the company.

However, current assets do not yield profits; on the contrary, they engender direct and opportunity costs, such as inventory holding and storage costs, procurement expenses, and accounts receivable management costs, among others. The fundamental opportunity cost of maintaining high levels of current assets resides in the foregone earnings that could have been realized had the funds been deployed in lucrative investment projects. This concept forms the foundation for addressing the query of how to finance investments in working capital. Namely, if we acknowledge that a company aiming to ensure an adequate level of liquidity in its operations must uphold a higher level of current assets than short-term liabilities, it becomes evident that such "upholding" essentially transforms current assets into long-term investments, necessitating sources of capital. Thus, the average (and at least precautionary) level of inventory and the average level of accounts receivable, while inherently short-term assets, when sustained over an extended temporal horizon, effectively constitute investments (Van Horne & Wachowicz, 2009). The matter of financing investments in working capital constitutes the second inquiry within working capital management, and the cost of such financial structuring manifestly exerts an impact on the overall profitability of the company.

Within the context of a company's business performance, particularly the relationship between the efficiency of working capital management and profitability, the attention of the scholarly-research community has been captured only in recent decades. Previously, this matter languished in the "shadow" of the other two financial management decisions and their connections with corporate operational success. The research conducted by Vijayasaradhi & Rao (1978) is considered as the pioneer work in this area. The authors analyzed companies whose shares were traded on the Indian financial market and found a negative relationship between the level of working capital and profitability. The research findings indicated that an escalating trend in working capital investments (in contrast to investments in fixed assets) resulted in amplified financing and accounting costs, negatively impacting the profitability of the observed companies. This study ignited interest in the issue, subsequently followed by a plethora of works by other scholars.

In the contemporary global landscape (releveant for our research), notable are the contributions by Lazaridis & Tryfonidis (2006), Raheman & Nasr (2007), Gill et al. (2010), Ani et al. (2012), and Kieshnick et al. (2013). The first mentioned pair of authors examined the relationship between profitability and working capital management using a sample of 131 companies listed on the Athens Stock Exchange for the period 2001-2004. The outcomes suggest a significant correlation between profitability and liquidity (measured by the Cash Conversion Cycle - CCC), a cornerstone of working capital management, while also pointing to the potential for optimizing the level of current assets to enhance company value. Raheman & Nasr (2007) in their study analyzed effect of working capital management on liquidity and profitability on the sample of 94 Pakistani firms listed on Karachi Stock Exchange for a period of 6 years from 1999 – 2004. Authors applied the Pearson's correlation, and regression analysis (Pooled least square and general least square with cross section weight models) for the purpose of the analysis and they confirmed strong negative relationship between working capital management variables and company profits. Gill et al. (2010) investigated the same relationship across a sample of 88 companies listed on the New York Stock Exchange for the period 2005-07. Authors also confirmed a significant correlation between the Cash Conversion Cycle (CCC) as an indicator of working capital management efficiency and gross operating margins. Once again, the existence of an optimal working capital level within a company is suggested. Ani et al. (2012) analyzed the five largest global beer producers over the period 2000-2011, extending their focus from the Cash Conversion Cycle to all components of this indicator (inventory turnover, accounts receivable turnover, and accounts

payable turnover), deeming them indicators of working capital management efficiency. A noteworthy observation was the significant correlation between working capital management and profitability. Of particular significance, the authors established causal relationships within this association - an increase in profitability positively correlated with heightened accounts receivable and shortened accounts payable periods. Kieshnick et al. (2013) also endeavored to ascertain the regularity of the described relationship. Employing a sample of nearly 4,000 U.S. industrial companies for the period 1990-2006, the authors employed a regression model and concluded that for the average company, "the value of an incremental dollar in receivables has a greater impact on shareholder wealth than an incremental dollar invested in inventory."

Within the European financial landscape, notable works are those written by Charitou et al. (2010), Banos-Cabalero et al. (2014), Vural et al. (2012), Koralun-Bereznicka (2014) and Anton & Nucu (2020). In the first study, the authors observe the effects of working capital management on the financial performance of companies listed on the Cyprus Stock Exchange during the period 1998-2007 (an era categorized as an emerging market). The research outcomes, derived through multivariate regression analysis, reveal a positive and significant relationship between the Cash Conversion Cycle (CCC) and all its components (inventory turnover, accounts receivable turnover, and accounts payable turnover) and company profitability. Banos-Cabalero et al. (2014) analyze working capital management as a driver for enhanced profitability, utilizing a sample of 258 British non-financial companies over the period 2001-2007. The research findings point to a positive correlation between current assets (specifically accounts receivable levels) and indicators of company profitability, indicating the existence of an optimal level and structure of current assets. The authors recommend that company managers "avoid adverse impacts on company performance due to lost sales and discounts for early payment or additional financing costs." Vural et al. (2012) employs dynamic panel analysis on a sample of 75 companies listed on the Istanbul Stock Exchange during the period 2002-2009. The focus again is on the relationship between working capital components and company profitability. However, the study results suggest a negative relationship between accounts receivable turnover, and more broadly, the cash conversion cycle, and company profitability. Finally, Koralun-Bereznicka (2014) undertakes a study based on an extensive sample of companies (spanning 9 EU countries, 13 industrial sectors, three size categories, and over 10,000 observations) across an extended temporal horizon (2000-2009). In contrast to earlier works, the researcher introduces determinants of working capital alongside the relationship between working capital efficiency and company profitability. The conclusion reached is that the structure of working capital is not exclusively conditioned by the motive of enhancing company value but is also influenced by factors such as the company's country of domicile, its industrial sector, and subsequently, its size. One of the most recent studies is one conducted by Anton & Nucu (2020). It investigates the relationship between working capital and firm profitability for a sample of 719 Polish listed firms over the period of 2007–2016. Study employed a quantitative approach using different panel data techniques (ordinary least squares, fixed effects, and panel-corrected standard errors models). The empirical results found an inverted U-shape relationship between working capital level and firm profitability. In practice it means that working capital has a positive effect on the profitability of Polish firms to a break-even point (optimum level). After this point however, working capital starts to negatively affect firm profitability.

Research centered on companies from the Southeast European region is scarce. Nevertheless, we highlight the research of Korent & Orsag (2018) and Ramljak et al. (2020). In the former study, the authors base their research on a sample of 442 Croatian companies within the IT

industry during the period 2008-2013. Independent variables encompass net working capital value, company size and age, growth percentage, fixed asset proportion in total assets, financial leverage ratio, and company market share, while the dependent variable is return on assets (ROA). The research findings reveal a significant relationship between working capital and the return on assets of the observed companies. Methodologically, of particular relevance to our study is the work of Ramljak et al. (2020). The authors test the relationship between working capital management efficiency and profitability using a sample of 33 Croatian construction companies during the period 2012-2016. As indicators of working capital management efficiency, they employ independent variables such as accounts receivable turnover, inventory turnover, accounts payable turnover, cash conversion cycle, current and quick ratios, while gross operating margin serves as the indicator of profitability, the dependent variable in the model. The results demonstrate that the cash conversion cycle, current ratio, and quick ratio significantly influence profitability, while accounts receivable turnover, inventory turnover, and accounts payable turnover (contrary to findings in other pertinent research) do not exert a significant impact on company profitability.

METHODOLOGY

The research focuses on 18 manufacturing companies quoted on official market on the Zagreb Stock Exchange (ZSE), Belgrade Stock Exchange (BELEX), Banja Luka Stock Exchange (BLSE), and Sarajevo Stock Exchange (SASE) during the period from 2018 to 2022. After reviewing the available literature, we made a choice of variables that would represent working capital and profitability (summarized in Table 1.). The variables selected to measure the impact of working capital management on profitability are: Receivables collection period (AR), Inventory conversion period (INV); Payables deferral period (AP); 4. Cash Conversion Cycle (CCC). Control variables are defined as: 1. Firm size (FS); 2. Debt ratio (DR); 3. Firm growth (FG). The dependent variable is Return on assets (ROA).

Table 1. Summary of variable measurement calculation

Variables	Ratio	Abbreviation
Return on assets	Net income / total assets	ROA
Receivables collection period	Accounts receivables / (Sales / 365)	AR
Inventory conversion period	Inventories / (Cost of goods sold / 365)	INV
Payables deferral period	Accounts payable / (Cost of goods sold / 365)	DP
Cash conversion cycle	AR + INV - DP	CCC
Firm size	Natural logarithm of total assets	FS
Debt ratio	Total debts / Total assets	DR
Firm growth	(Current year sales – Previous year sales) / Previous year sales	FG

Source: Authors based on literature review

From a methodological perspective, the empirical research in this field has predominantly relied on static panel data techniques, such as regression analysis and correlation analysis. However, in recent studies, some researchers have introduced alternative methods, notably the

Generalized Method of Moments (GMM), to address the challenges associated with endogeneity (Dalci et al. 2019; Mahmood et al. 2019; Laghari & Chengang 2019; Altaf & Shah 2018; Botoc & Anton 2017). It is important to note that endogeneity poses a significant challenge in the realm of corporate finance. Consequently, Li (2016) has proposed a range of approaches to tackle this issue, including GMM, instrumental variables, fixed effects models, lagged dependent variables, and control variables.

In the current econometric analysis, in addition to ordinary least squares (OLS), we have employed two additional panel data methodologies: fixed-effects model and the random effects model. The rationale behind this choice lies in the inherent advantages of these approaches. Fixed-effects regression enables us to comprehensively account for factors that could potentially influence firm profitability within a specific year. Meanwhile, the standard error model addresses heteroscedasticity at the firm level and considers contemporaneous correlations among firms. Furthermore, the combination of these methods, along with the inclusion of pertinent control variables, appears to effectively mitigate the challenges posed by endogeneity, in accordance with the insights provided by Li (2016).

Model specification

$$ROA = \beta 0 + \beta 1\ CCC + \beta 2\ DR + \beta 3\ FG + \beta 4\ FS + \text{€}$$
(1)

Where; CCC is cash conversion cycle, DR is debt ratio, FS is firm size, FG is firm growth, ROA is return on assets.

As for the choice of the independent variable, the cash conversion cycle (CCC) has been selected due to its ability to elucidate the speed at which a company transforms its produced goods or services into liquid assets. This encompasses the entire journey from the production and supply of goods to their eventual sale and receipt of payment. The significance of maintaining an adequate cash reserve is paramount for all firms, as it reflects their overall liquidity position. It is anticipated that the CCC will exhibit a negative relationship with the profitability indicator. In other words, the longer the cycle for converting assets into cash, and the greater the immobilization of funds in receivables and inventories, the lower the expected profitability. These conclusions align with the findings of previous studies conducted by Deloof (2003), Eljelly (2004) and Shin & Soenen (1998). Together with these variables, we introduced as control variables the size of the firm, the growth in its sales, and its debt ratio. These findings are in line with research results of numerous studies, among others: Karaduman et al. (2010), Garcia-Teruel & Martinez-Solano (2007), Charitou et al. (2010)

RESULTS

Results summarized in Table 2. show Pearson's correlation analysis among all variables under investigation. As hypothesized, profitability has an inverse relationship with the cash conversion cycle and the components of this cycle; namely, days in inventory, days in receivables and days payables. These results indicate that the firm's financial health is inversely related to the components of the cash conversion cycle. This is consistent with the view that the time lag between the expenditure for the purchases of raw materials and the collection of sales of finished goods can be too long, and that decreasing this time lag increases profitability (Deloof, 2003).

A shortcoming of Pearson correlations is that they do not allow to identify causes from these consequences. A negative relation between number of days accounts payable and profitability is consistent with the view that less profitable firms wait longer to pay their bills. In that case, profitability affects accounts payable policy, and not vice versa. An alternative explanation for a negative relation between the number of days accounts payable and profitability could be that firms wait too long to pay their accounts payable. Speeding up payments to suppliers might increase profitability because observed firms often receive a substantial discount for prompt payment. Regarding the association between profitability and the control variables, namely, sales growth and firm size, our findings reveal a positive relationship, aligning with the outcomes of studies conducted by Vijayakumar et al. (2010) and Serrasqueiro et al. (2008). In addition, our correlation analysis indicates a negative relationship between the debt ratio (DR) and return on assets (ROA). This suggests that firms with higher levels of leverage tend to be less profitable, likely due to the heightened default risk associated with such firms. These results are consistent with the observations made by Deloof (2003) and Charitou et al. (2010) in their respective studies.

Table 2. Pearson correlations for all variables tested for all firms over the 5-year period

	ROA	CCC	INV	AR	DP	DR	SG	FS
ROA	1							
CCC	-0.351***	1						
INV	-0.257**	0.779***	1					
AR	-0.391***	0.935***	0.574***	1				
DP	-0.189*	0.186*	0.604***	0.161	1			
DR	-0.041*	-0.432***	-0.217**	-0.384***	0.229**	1		
SG	0.422***	-0.211**	-0.157	-0.227**	-0.098	0.047	1	
FS	0.206*	0.001	0.137	-0.075	0.081	0.207*	0.004	1

***, **, *: statistically significant at the 1%, 5%, 10% respectively

Table 3. presents the outcomes of three regression estimations, namely Pooled Ordinary Least Squares (OLS), fixed effects, and random effects analyses, aiming to discern the determinants of profitability employing a set of explanatory variables. The OLS estimation reveals a statistically significant association between all explanatory variables and return on assets. Specifically, the cash conversion cycle exhibits a noteworthy negative correlation with working capital management, significant at the 1% level, which is in line with prior studies, among others: Teruel & Solano (2007), and Charitou et al. (2010). Furthermore, both SG and firm size demonstrate positive correlations with ROA, significant at the 5% and 1% levels, respectively, whereas the debt ratio displays a significant negative correlation with ROA.

In the subsequent phase of our analysis, we delved into the appropriateness of employing the Pooled Ordinary Least Squares (OLS) estimation. To accomplish this, we conducted a fixed effect analysis, which yielded an F-statistic with a p-value of 0.1312. This statistical outcome strongly supports the superiority of the Pooled OLS estimation, thereby leading us to abstain from interpreting the findings derived from the fixed model. Afterwards, we needed to check which model is more appropriate between fixed effect and random effect estimations. The widely adopted Hausman test, employed by numerous economists (Baltagi et al., 2003; Hsiao, 2007), was utilized to select between these two approaches. The Hausman test result indicates a preference for the random effect estimation over the fixed effect estimation (as shown in Table 3.), suggesting the absence of a relationship between individual effects and regressors. The results of the random effects model in Table 3 indicate that both the cash conversion cycle (CCC) and the debt ratio (DR) exhibit significant and negative correlations with firm profitability, signifying that firms with shorter CCC and lower debt levels tend to achieve higher profitability. Conversely, sales growth (SG) and firm size (FS) demonstrate positive

and significant associations with ROA, indicating that greater sales growth and larger firm size are linked to higher profitability.

Furthermore, to determine the most suitable model among Pooled OLS and random effect model, we employed the Lagrange multiplier test for random effects. The test results indicate a preference for the Pooled OLS method, as the p-value exceeds 0.05. Consequently, the Pooled OLS regression analysis emerges as the most appropriate model. It is worth noting that when dealing with panel data, the conventional OLS standard errors become inappropriate unless there is no clustering effect. Therefore, we have utilized White standard errors, which are robust to within-cluster correlation (i.e., Rogers or clustered standard errors), ensuring unbiasedness and correctly sized confidence intervals, irrespective of the permanence or transience of firm effects. Notably, the adjusted R-squared values of the OLS regressions substantially surpass the adjusted 'overall' R-squared values of the fixed effects regressions.

Table 3. Regression analysis on impact of working capital management on profitability

Dependent Variable: ROA			
Independent variables	Pooled OLS with clustered standard errors	Fixed effect	Random effect
CCC	-0.000065***	-0.0000583	-0.0000662***
SG	0.0834523**	0.0796319***	0.0810534***
DB	-0.0731178**	-0.2141828***	-0.0793834***
FS	0.0080143***	-0.0052285	0.0081567***
Constant	-0.1025472**	0.2151936	-0.1024323*
R^2	0.3550	0.0884	0.3544
LM test for random effects	…	…	0.08 (0.3864)
F test	1.47 (0.1312)		
Hausman test	…	7.11 (0.1301)	

***, **, *: statistically significant at the 1%, 5%, 10% respectively

CONCLUSION

In conclusion, this paper has delved into the crucial realm of working capital management and its impact on the profitability of manufacturing companies in Southeastern Europe, with a specific focus on those quoted on the Zagreb Stock Exchange (ZSE), Belgrade Stock Exchange (BELEX), Banja Luka Stock Exchange (BLSE), and Sarajevo Stock Exchange (SASE) during the period from 2018 to 2022. Through a comprehensive review of relevant literature and empirical analysis, several key findings and insights have emerged.

First, working capital management, as represented by the cash conversion cycle (CCC) and its components management, was found to be significantly associated with firm profitability. Specifically, a shorter CCC was linked to higher profitability, suggesting that companies that efficiently convert their assets into cash tend to achieve better financial performance. This finding is in line with previous research in the field, underlining the importance of effective working capital management in enhancing profitability. Additionally, the study revealed that other factors such as sales growth (SG) and firm size (FS) also had a positive impact on firm profitability. Companies experiencing higher sales growth and larger in size tended to exhibit greater profitability. Conversely, the debt ratio (DR) displayed a negative correlation with profitability, indicating that firms with lower levels of debt tended to be more profitable.

These results are consistent with the broader body of literature on corporate finance and reinforce the importance of considering various financial and operational factors when assessing firm profitability.

In terms of methodology, the paper employed a rigorous econometric approach, including Pooled Ordinary Least Squares (OLS) regression, fixed effects, and random effects analyses. Through the application of appropriate statistical tests, it was determined that the Pooled OLS estimation was the most suitable model for this analysis, providing reliable and robust results.Overall, this study contributes to the understanding of the relationship between working capital management and firm profitability, particularly within the context of Southeastern European manufacturing companies. The findings underscore the significance of optimizing working capital practices to enhance financial performance and provide valuable insights for both practitioners and researchers in the field of corporate finance. As working capital management continues to be a critical aspect of financial decision-making, further research in this area can offer valuable insights into improving the financial health and sustainability of businesses in the region and beyond.

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THE RELATIONSHIP BETWEEN THE QUALITY OF CORPORATE GOVERNANCE AND BUSINESS DEBT

ABSTRACT

The level of quality of corporate governance can be defined as the level of fulfilment of set corporate governance standards. By using the theoretical and empirical data available so far, Bosnia and Herzegovina has the characteristics of a closed corporate governance system in both entities so, therefore, the models which measure corporate governance in countries with typical closed corporate governance systems were chosen in order to develop the model.
The quality of corporate governance belongs to the group of non-financial business indicators and it signifies the level of fulfillment of international corporate governance standards.
A significant portion of research shows that corporations which achieve higher standards or a higher level of standard fulfilment, as well as better corporate governance practice, also have better financial results and, therefore, larger value in the capital market.
The subject of this research is to determine the relationship between the quality of corporate governance and business debt and, considering the fact that we are dealing with historical data, research will show whether corporations which had good corporate governance also had a lower level of debt and vice versa.
The aim of the research is to analyze the relationship between the quality of corporate governance and debt indicators of observed corporations in Bosnia and Herzegovina.

Keywords: corporate governance, corporate governance system in Bosnia and Herzegovina, the quality of corporate governance in Bosnia and Herzegovina, RKU index, debt coefficient

1. INTRODUCTION

Corporate governance shows how the rights and responsibilities between different interest-influence groups in corporations are distributed. Corporate governance provides an answer to the question who oversees the corporation and how. Corporate governance is defined as a set of processes and procedures of managing and controlling a corporation.

A significant portion of research shows that corporations which achieve higher standards and better practice of governance also have better financial results and, therefore, larger value in the capital market. In other words, a higher level of corporate governance ensures an easier access to capital and better financial business performance on the other hand (Haque, F., Arun, T. i Kirkpatrick, C, 2008, p. 264 – 277)

The quality of corporate governance is determined so that the degree (percentage) of fulfilment of set criteria, separated into categories, is measured. The higher the final grade value is (closer to 100%), the quality of corporate governance is higher and vice versa.

The subject of this research is to determine the relationship between the quality of corporate governance and business debt and, considering the fact that we are dealing with historical data, research will determine whether the corporations which had good corporate governance also had a lower level of debt and vice versa.

The main subject of research is to determine the direction and relationship between the quality of corporate governance and debt indicators.

The aim of the research is to analyze the relationship between the quality of corporate governance and debt indicators of observed corporations in Bosnia and Herzegovina.

2. MEASURING THE QUALITY OF CORPORATE GOVERNANCE IN BOSNIA AND HERZEGOVINA

The quality of corporate governance will be determined within six categories. The categories of the grade of corporate governance quality are:[1]
  I.   Dedication to the principles of corporate governance and social responsibility,
  II. Shareholder assembly,
  III. Supervisory board/non-executive directors,
  IV. Board of directors - Governance,
  V.   Revision and internal control mechanisms,
  VI. Business transparency.

The index developed to analyze corporate governance in BiH was called LCM (eng. Level of Corporate Governance – hrv. RKU- R̲azina K̲orporativnog U̲pravljanja).[2] It was developed and

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[1] The number and types of categories, as well as their ponders in the total grade, were adapted to the OECD – the Principles for Corporate Management from 2004, Standards of Corporate Management in RS from 2011, as well as the Codex of Corporate Management for companies enlisted in the Sarajevo stock market from 2009. The model of measurement and analysis of the results was formed according to the Scorecard for German Corporate Governance as well as the experiences relating to the indexes created based on the Sarbanes – Oxley law in the USA, Combined Code in Great Britain, as well as other corporate management quality measurement attempts. The value of ponders was determined based on existing experiences and results of research into the significance of individual segments of the grade for social-interest groups and their influence on the total quality of corporate management.

[2] The LCM index (the first version of which was called BHCoG) was developed and tested with the research of the author for the purpose of the scientific magister paper of Nikola Papac for the banks in Bosnia, and it was later revised and adapted to the changes within the institutional framework (the second version of it was called the LCM index). It was developed according to the BHCoG index which the author developed in order to analyze the quality of corporate management in Bosnian banks in 2009 for the purpose of defending his scientific master's thesis. The BHCoG index, as

tested according to the Scorecard for German Corporate Governance index, intended for German corporations with stocks traded in the German capital markets. For the purpose of this research, the first version of the index was completely changed and adapted to the criteria prescribed in the OECD – the principles for corporate governance from 2004 and, furthermore, to the Standards of Corporate Governance in RS from 2011, as well as the Codex of Corporate Governance for companies enlisted in the Sarajevo stock market from 2009. The final index structure is given in Table 1.

Table 1 – The structure of the index of the level of corporate governance in Bosnia – the LCM index

No.	Description and way of grading the criterion	The number of criteria in category	Portion/ponder in total grade
I.	Dedication to the principles of corporate governance and social responsibility	7 criteria	15%
II.	Shareholder assembly	9 criteria	15%
III.	Supervisory board/non-executive directors	7 criteria	10%
IV.	Board of directors - Governance	9 criteria	20%
V.	Revision and mechanisms of internal control	5 criteria	10%
VI	Business transparency	9 criteria	30%
	TOTAL	**46** criteria	**100%**

Source: authors

The total and final grade may be expressed in multiple ways. The first of them is definitely the original shape and values created by analysis, while the other one is through a certain collection of classes of achieved value (three, five, seven, or ten). The grades will be joined with the appropriate commentary, as well as the determination of factors of meaning and the determination of factors which may influence grading.

The final grade is determined by adding up the values which each individual category achieved in the total grade, which could be shown with the form:

"'Category 1" + "Category 2" + … + "Category 6" = the grade of quality of corporate governance of a society according to the LCM index

Grading is done once per year and is valid for the period of one business year (12 months) i.e., for the period between two shareholder assemblies. The grades may be categorized in multiple ways. The most common are five-level and ten-level ones. However, they can also be descriptive grades of the achieved level of corporate governance.

3. THE LEVEL OF QUALITY OF CORPORATE GOVERNANCE MEASURED BY THE "LCM INDEX" IN THE CORPORATIONS IN BOSNIA AND HERZEGOVINA

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well as the LCM one, was developed according to the DVFA index – Scorecard for German Corporate Governance, which was created for the purpose of analyzing corporate management in German capital markets. The BHCoG index was created completely according to the DVFA one, while the LCM index also took into consideration the politics and rules of the DVFA and indexes, but for the creation.

The LCM index measured the level of quality of corporate governance for 87 corporations in Bosnia, 49 of which were in the Federation of Bosnia and Herzegovina area, and 38 were from the Republic of Serbia area. For each corporation, the measurement was done within three time periods and it could be said that there were, in total, 261 measurements or observations. The data for the grade of the level of quality of corporate governance was taken from the reports on corporate governance which were adapted to the regulations and codices of corporate governance at the level of the entities.

Table 2 – The level of quality of corporate governance measured by the LCM index in Bosnia and Herzegovina

No.	Index categories	Ponder value	FBiH (49)	RS (38)	BiH (87)
I.	Dedication to the principles of corporate governance and social responsibility (7 criteria)	15%	5,49%	6,63%	**5,99%**
II.	Shareholder assembly (9 criteria)	15%	8,60%	8,26%	**8,45%**
III.	Supervisory board (8 criteria)	10%	4,35%	3,72%	**4,07%**
IV.	Board of directors - Governance (9 criteria)	20%	10,62%	10,95%	**10,76%**
V.	Revision and internal control mechanisms (5 criteria)	10%	5,41%	5,23%	**5,33%**
VI	Business transparency (9 criteria)	30%	17,18%	18,55%	**17,78%**
	TOTAL		*51,66%*	*53,33%*	*52,39%*

Source: authors

The total grade of the quality of corporate governance in Bosnia, according to the LCM index, is 52,39% of the fulfilment of set criteria. Therefore, it might be said that the total grade for Bosnia and Herzegovina is **poor to mediocre (C)**. This shows that only half of the total set criteria were fulfilled. The first and third category are significantly below, almost down to one third of the set standards for the category, while all other categories had half of the total set criteria fulfilled.
As far as entity comparison goes, the image clearly shows that the level of governance in both entities is almost identical.

Figure 1 – The level of quality of corporate governance measured by the LCM index in Bosnia and Herzegovina
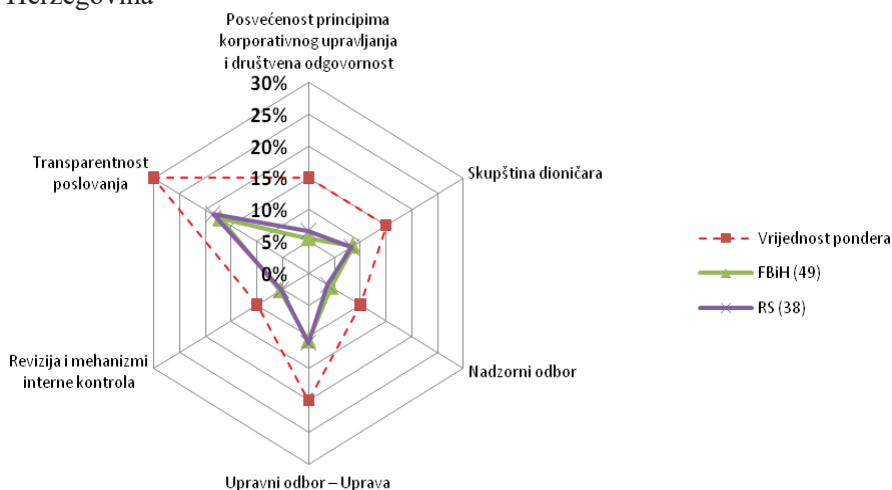
Source: authors

When figure 1 is analyzed in more detail, it may be concluded that the level of corporate governance according to certain categories is very similar in both entities and the existing differences according to an individual category are less than 10%. The only more significant difference is in regard to the first category "*Dedication to the principles of corporate governance and social responsibility*", and the authors believe that the main reason for this difference (the value is higher in RS) is the fact that the Republic of Serbia entered the process of developing an institutional framework for corporate governance earlier (the first index in RS was brought in 2006, and in FBiH it was done in 2009).

If we only observe descriptive statistics, we can see that the value of the level of corporate governance is within the 0 to 100 range and that the research done in 87 corporations (49 in FBiH and 38 in RS) om three time periods so we can say that there were 261 observations of the project done. Table 4 shows the descriptive statistics for the LCM variable.

Table 3 – Descriptive statistics for the *LCM*

		LCM
N	Valid	261
	Missing	0
Mean		52.3898
Median		53.7500
Std. Deviation		13.26799
Skewness		.027
Kurtosis		-.732
Minimum		25.60
Maximum		86.20

Source: authors

The LCM indicators range from 25.60 to 86.20 with the mean of 52.39. The symmetricity and roundness indices point to the fact that the frequency distribution of the LCM variable has a near normal distribution, which can also be seen on the histogram (Figure 2).

Figure 2 – Histogram of the results of the LCM index in Bosnia and Herzegovina
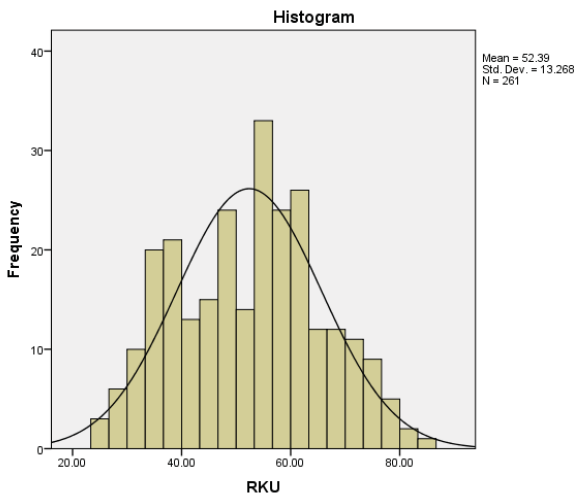
Source: authors

By controlling the boxplot graphics, there was no outlier visible (extreme value) for this variable, which could be assumed based on the shown form of the frequency histogram (Image 2). Therefore,

it can be concluded that the distribution of the value frequency of the LCM index for both entities in Bosnia and Herzegovina has a normal shape.

4. THE RELATIONSHIP BETWEEN THE QUALITY OF CORPORATE GOVERNANCE AND DEBT – DEVELOPING THE MLM MODEL

The relationship between the quality of corporate governance and the liquidity of business will be shown by a multilevel regression model or the MLM model. These models (also known as hierarchical linear models, the linear mixed-effect models, mixed models, nested data models, random effects models, random parameters models or designed split-plot) are statistical models of parameters differentiated on more than one level. These models can be observed as generalizations of linear models (especially linear regression), although they can be spread onto non-linear models as well. Multilevel models are especially appropriate for research blueprints where the data for participants is organized on more than one levels (i.e., nested data).

The units of analysis are usually individuals (on a lower level) which are nested in contextual/aggregate units (on a higher level). As such, multilevel models offer an alternative type of analysis for a univariant or multivariant analysis of repeated measures. Furthermore, multilevel models may be used as an alternative to ANCOVA where the results on the dependent variable are adapted to the covariates (e.g., individual differences) prior to testing the differences (Hox, J. 2010.).

As was already stated, the MLM model uses more tests or models which test the stated hypothesis, and it can be concluded that there is no model or test for which we can say is best for all situations. Instead of that, every model or test is useful under certain circumstances. Aside from that, it is also useful to compare all the indicators generated in the MLM model and analyze the changes going on. The first step of the MLM analysis is centering the independent metric variable. Centering brings some advantages in relation to the usage of "raw" data from which the most often mentioned are: reducing potential problems when estimating (developing) the model, easier interpretation of received parameters and the reduction of problems caused by multicollinearity.

In our case, the LCM variable has no natural zero (i.e., there is no level of corporate governance which could be characterized by a zero). For that reason, in order to make the interpretation of results easier, the variable is centered so that the arithmetic mean is deducted from the group for each individual observation i.e., from every corporation to which that observation belongs (Xi – $\overline{x}_j$). The result is the cRKU variable for which the mean is at zero. This is the so-called centering of a variable in relation to the mean of the group (Group Mean Centering). Another way in which the LCM could be centered is that the mean is deducted from the value of each individual variable observation (i.e., Xi –52.3898). In that case, we would be talking about centering around the grand mean (Grand Mean Centering).

Centering the chosen variables prior to modelling is a standard procedure and is the topic of a lot of authors (Kreft, Leeuw and Aiken, 1994., p. 121 – 138), (Kreft and Leeuw, 1998., p. 106 – 114), (Enders and Tofighi, 2007. p. 121 – 138). The greatest dilemma regarding centering is which of the two possible methods of centering to use and when: *Grand Mean Centering* or *Group Mean Centering*. The choice primarily depends on the type of research question. Enders and Tofighi (2007) give general guidelines on the choice for the method of centering in which they state that, for the models in which one attempts to test the differential influence of the variable on two levels in a hierarchy (in our case, those are observations within corporations – *level 1* and differences between corporations – *level 2*), both centering methods can be equally good because they give equivalent estimated parameters. Furthermore, Kreft and Leeuw (1998, p. 109) state that repeated measures research have models in which either of these two forms of centering come out equivalent in regards to all estimated parameters. Here it is necessary to mention that equivalent parameters do not mean identical ones. Namely, in the model where the *Group Mean Centering* was used, the

estimated parameter which measures the influence of the variable on a higher level (in our case that is the group average– *meanLCM*), will incorporate in itself exclusively the influence on the dependent variable among groups. However, the differential difference can be gained by a simple calculation of the difference between the parameter value on level 1 (*cLCM*) and the parameter on level 2 (*meanLCM*). This difference will be identical to the estimated differential effect of the parameter for level 2 (*meanLCM*) om the model where the *Grand Mean Centering* was used. Therefore, it is said that the parameters are equivalent (Enders and Tofighi, 2007, p. 121 – 138).

Newsom (2013) in his notes states that *Group Mean Centering* is the preferred method for situations when we are primarily interested in the influence of one variable on two levels, considering it gives a somewhat more concrete interpretation of the estimated effect of the given variable for level 2. Also, by performing the *Group Mean Centering* the correlation between *level 1* and *level 2* predictors is completely eliminated. Due to that, we decided on the *Group Mean Centering*.

The *meanLCM* variable is also centered. Therefore, the arithmetic mean for this variable is 0 and it corresponds to the level of average corporate governance for 87 corporations from the sample. For the variables on level 2, it is still centering around the general mean (Enders and Tofighi, 2007, p. 121 – 138).

5 INDICATORS OF BUSINESS DEBT

The indicators of debt (Financial leverage) measure the degree of company debt i.e., they show how much is the company financed from other sources. These indicators are actually a reflection of the passive structure of the company and measure how much of the property is financed from personal capital and how much from other capital (liabilities). These indicators actually measure the relationship between personal and other invested capital. The debt indicators and the way in which they are calculated are shown in Table 5.

Table 4 – Debt indicators

Indicator name	Numerator	Denominator	Coefficient value
Debt coefficient	*Total liabilities*	*Total assets*	*Desirable value **less than** 50% or 0,5*
Personal financing coefficient	*Principal*	*Total assets*	*Desirable value **more than** 50% or 0,5*
Financing coefficient	*Total liabilities*	*Principal*	*Desirable value is 1 or 100 %*
Covering interest expenses	*Gain prior to taxes and interest*	*Interest*	*Desirable to be as high as possible*
Debt factor	*Total liabilities*	*Kept gain + amortization*	*Years of return – desirable to be low*
Coverage degree I	*Principal*	*Long-term property*	
Coverage degree II	*Principal + long-term liabilities*	*Long-term assets*	*Desirable to be **higher than** 1*

Source: Žager, K., Mamić, I., Sever, S. i Žager, L.: Analiza financijskih izvještaja, MASMEDIA, Zagreb, 2008., str. 248.

Debt coefficient gives us data about the size of debt per one monetary unit of personal capital. As a rule, it should be 50% or less.

Value of the indicator of personal financing should, as a rule, be higher than 50%, which means that a larger portion of assets is financed from personal sources. The sum of the debt coefficient and personal financing coefficient should be 1, or 100%, but sometimes that is not the case because of items which cannot be categorized as neither liabilities nor capital.

Financing coefficient shows the relationship between foreign capital i.e., liabilities and personal capital. It is desirable that this be as low as possible, with a maximum of 1 i.e., 100%.

Covering the interest expenses coefficient shows us how many times could a business pay out the interest expenses from its gain. The higher this indicator is, the larger portion of business is financed from personal assets.

For the purpose of this research, the debt of observed corporations will be tested with the debt coefficient.

Table 5 – Descriptive statistics for all the indicators of dependent variables and the expected direction of the LCM influence

Marking	Indicator	Min	Max	Mean	Median	SD
ZKZ	Debt coefficient	.00	1.00	.28	.19	.26
ZKZ_ln		-6.11	.00	-1.75	-1.66	1.14

Source: authors

In order to test this relationship, the ZKZ debt coefficient was used. It represents the relationship between total liabilities and total debt of a corporation, and it is desirable that its value be as low as possible (ideally from 0 to 0.5). If this coefficient value is 0, a corporation has no debt. In order to test this relationship, the first step was to transform the data for the debt coefficient ZTZ because of the deviation of the variable frequency distribution from a normal one, and it is transformed with the application of the logarithm base e so the transformed logarithm variable was marked as ZTZ_ln.

6. THE RELATIONSHIP BETWEEN CORPORATE GOVERNANCE AND BUSINESS DEBT OF OBSERVED CORPORATIONS

This research analyzed the influence of the level of corporate governance (LCM) to the corporation debt. Considering the fact we are dealing with historic data, the research will show whether the corporations which had good corporate governance also had a lower debt and vice versa. In order to test this relationship, the debt coefficient ZKZ was used. It represents the relationship between total liabilities and total business debt and it is desirable that its value is as low as possible (ideally 0 to 0.5). If it is 0, the corporation has no debt.

Table 6 – Development of the MLM model of the LCM influence on the debt coefficient (ZKZ_ln)

Model structure	model	Coef.		-log likelihood
$ZKZ\_ln_{ij}(\_cons)$	M1	_cons	(-1.752^{***})	-182.24
	M1s	_cons	(-1.751^{***})	-158.11
$ZKZ\_ln_{ij}(cLCM, mainLCM)$	M2	cLCM	(-0.002)	-166.70
		mainLCM	(-0.048^{***})	
	M2s	cRKU	(0.001)	-143.96
		mainLCM	(-0.045^{***})	
$ZKZ\_ln_{ij}(time, cLCM, mainLCM)$	M3	time	(-0.011)	-166.54
		cLCM	(-0.001)	
		mainLCM	(-0.048^{***})	
	M3s	time	(-0.006)	-143.93
		cLCM	(0.002)	
		mainLCM	(-0.045^{***})	
$ZKZ\_ln_{ij}(time, cLCM, mainLCM, entity)$	M4	time	(-0.011)	-166.45
		cLCM	(-0.001)	

	M4s	mainLCM	(-0.048***)	-143.87
		entity	(0.087)	
		time	(-0.006)	
		cLCM	(0.002)	
		mainLCM	(-0.044***)	
		entity	(-0.067)	
ZKZ_ln$_{ij}$ (time, cLCM, meanLCM, slope-time)	**M5**	time	(-0.013)	-153.87
		cLCM	(-0.000)	
		mainLCM	(-0.046***)	
	M5s	time	(-0.006)	-130.18
		cLCM	(0.002)	
		mainLCM	(-0.044***)	
ZKZ_ln$_{ij}$ (time cLCM meanLCM slope-cLCM)	**M6**	time	(-0.008)	-164.98
		cLCM	(-0.001)	
		mainLCM	(-0.048***)	
	M6s	time	(0.003)	-142.08
		cLCM	(-0.002)	
		mainLCM	(-0.046***)	

Standard errors in parentheses
* p < 0.05, ** p < 0.01, *** p < 0.001

In order to test the relationship, the first step was to transform the data for the debt coefficient ZTZ due to the deviation of variable frequency distribution from the normal one and it was transformed with the application of the logarithm base *e* so that the transformed logarithm variable was marked as *ZTZ_ln*. In all the models which were developed and tested (6 for the full and 6 for the shortened sample), the coefficient values are negative, which shows that the growth of the level of corporate governance influences the reduction in business debt. However, we need to point out that the *meanLCM* coefficient value for all the developed models was very significant ($p < 0.001$), while the *cLCM* coefficient value was insignificant in developed models. In order to make a conclusion about the tested hypothesis, the M2 model was chosen for the entire sample, and the M2s for the shortened one.

The chosen model shows that a growth of the meanLCM of 1% caused a drop in the debt coefficient of 4,8% among corporations for the entire sample and 4,5% for the shortened one.

It can be concluded that a growth in the level of corporate governance (LCM) influences a drop in the value of the debt coefficient ZKZ (ideally, the value should be the closest possible to 0) i.e., it influences a reduction in the debt among corporations.

7. CONCLUSION

The subject of this research was to determine the relationship between the quality of corporate governance and the debt of corporations. Taking into consideration the fact that we are dealing with historic data, the research determined whether corporations which had good corporate governance also had greater debt and vice versa.

The aim of the research is to analyze the relationship between the quality of corporate governance and debt indicators of observed corporations in Bosnia and Herzegovina.

By synthesizing the empirical results of the research done on 87 corporations in Bosnia, a conclusion was reached that corporate governance does affect business debt i.e., empirical research confirmed a statistically significant relationship between the level of corporate governance and the debt coefficient. The research sample was made up of 87 corporations the stocks of which were traded on entity stock markets in Bosnia and Herzegovina, 49 of which were from the Federation of

Bosnia and Herzegovina and 38 from the Republic of Serbia. All the data gathered and measured related to the period of 2014, 2015 and 2016.

The debt coefficient ZKZ was used to test this relationship and it represents the relationship between total liabilities and total debt of a corporation. It is desirable for it to be as small as possible (its ideal value is from 0 to 0.5). If the value of this coefficient is equal to 0, the corporation has no debt.

We can conclude that the growth of the level of corporate governance (LCM) also influences the drop in the value of debt coefficient ZKZ (with its ideal value as close as possible to 0) i.e., the reduction in corporation debt. If all other presented models of the LCM influence on the debt coefficient are observed, the conclusion is the same. This means that every model shows that there is a statistically significant influence of the level of corporate governance and debt of corporations.

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EFFICIENCY OF ENVIRONMENTAL PROTECTION EXPENDITURES: EVIDENCE FROM SEE

ABSTRACT

Nowadays, climate change is one of the most important issues worldwide. Therefore, countries have set targets to reduce greenhouse gas emissions and pollution. One of the governmental instrument is the environmental protection expenditures. Their mission is to prevent, protect and eliminate pollution and other degradation of the environment. The aim of this paper is to investigate the efficiency of environmental protection expenditures in Southeast European countries in the period 2018-2020. In order to obtain meaningful empirical results, data envelopment analysis was applied. The results of the analysis show that there is a significant difference in the efficiency of environmental protection expenditures in the Southeast European countries. Therefore, this analysis could serve as a basic tool to improve environmental protection in the countries and help all state actors to achieve long-term environmental sustainability.

Keywords: environmental protection expenditures, data envelopment analysis, efficiency, SEE countries

JEL: H20, H21, H23

INTRODUCTION

The economic well-being of all nations is directly affected by climate change, which poses a major threat to long-term growth and prosperity. To address these challenges, European Union member states must pursue the goals of the European Green Deal (European Commission, 2019) along with the 2030 Agenda for Sustainable Development. The European Green Deal sets out a plan for achieving carbon neutrality by 2050 and implementing the United Nations Sustainable Development Agenda. To achieve this, Member States need to spend more on environmental protection and green initiatives, including the use of renewable energy, energy efficiency and the transition to a circular economy. Therefore, government spending on environmental protection is one of the most important determinants. However, as additional funds become available, it is very likely that spending on environmental protection will increase in the coming years. In the EU budget for the period 2021–2027, additional funds have been allocated for initiatives related to the environment and biodiversity. In addition, loans and grants are available for climate-related projects under the EU Recovery and Resilience Facility (RRF) 2021–2026. The RRF was established to provide financial support for the social and economic impacts of the pandemic COVID -19 and contributes to the EU's goal of a double digital and green transformation.

The ten countries of the Balkan Peninsula form South Eastern Europe (SEE). The region SEE consists of EU member states (Bulgaria, Croatia, Greece and Romania) and the so-called Western Balkan countries that have not yet joined the EU but aspire to do so (Albania, Bosnia and Herzegovina, Kosovo, Macedonia, Montenegro and Serbia). The Western Balkan countries are among the most polluted regions in Europe and face a range of environmental problems, including wastewater discharges, waste and chemical management, air, freshwater and soil pollution.

The EU Economic and Investment Plan for the Western Balkans (European Commission, 2020), with an investment of up to €30 billion, including up to €9 billion in EU grants, aims to drive long-term recovery, accelerate environmental and digital transformation, and promote regional cooperation and convergence with the EU. In June 2023, the European Commission presented an additional investment package of €2.1 billion to support sustainable development in the Western Balkans. However, it is difficult to assess to what extent the fund is adequate to the Green Agenda. The Western Balkan countries are struggling with fundamental governance problems that could prevent green investments. Moreover, regional administrations do not seem particularly enthusiastic to promote and enforce the proposed solutions. Moreover, despite warnings from the EU and civil society organisations, China has invested in Bosnia and Herzegovina and Serbia, which has had a negative impact on the environment (Tzifakis and Valvis, 2022). The countries of the Western Balkans are at a turning point in terms of the development of their economies, communities and the environment. The economies of the region need to make the transition from their former industrial economies to modern post-industrial economies. National policies must also address changing consumption patterns and increasing consumer behaviour, driven by societal reforms and changes that have a greater impact on the region's environment. The decisions regional governments make today on these and other pressing challenges will have an impact on the environment not only in the region but also in other European countries in the coming decades.

There is much discussion and research in the scientific community on environmental protection measures and instruments. One of these tools is government spending on environmental protection. An examination of the literature, which includes many academic articles, shows that environmental protection policies and expenditures are a current topic, while the efficiency of environmental protection expenditures has only recently been the subject of research. Therefore, the aim of this paper is to investigate the efficiency of environmental protection spending in South-Eastern European countries (SEE) in the period 2018-2020. The countries of SEE were chosen for this analysis because this region is at a crossroads to replace outdated coal-fired power generation and transition to a low-carbon economy through the implementation of environmental measures. The region itself offers significant opportunities to increase energy efficiency, as well as enormous potential for the development of renewable energy sources, especially solar and wind power. In the coming years, there will be a unique opportunity to advance decarbonisation and the energy transition in a regional context, thanks to the shared political history of many SEE nations and their close geographical and political ties. The contribution of this paper lies in the empirical analysis focusing on the efficiency of environmental protection spending in selected SEE countries.

The rest of the paper is organized as follows. The literature on environmental protection expenditures is described in Section 2. The methodology and data are presented in Section 3, while the results and discussion are presented in Section 4. The final section 5 provides conclusions and recommendations for further research.

2. LITERATURE REVIEW

According to economic theory, the primary objective of government spending on environmental protection is to promote the sustainable use of natural resources and to protect the environment. Therefore, government spending must be used wisely, as states must achieve carbon neutrality by 2050 with limited financial resources. There are a large number of studies in the academic literature that examine the impact of various economic and fiscal instruments on the environment (Abdullah and Morley, 2014; Hajek et al. 2019; Dogan et al. 2023), but there is a lack of studies on the efficiency of environmental spending.

Barrell et al. (2021) analysed the efficiency of environmental spending in EU countries between 2005 and 2015 using data envelopment analysis (DEA). Their results support the idea that increasing environmental spending does not lead to better environmental outcomes. The authors point out that the efficiency of environmental spending in the selected EU countries decreases as a

result of the increase in spending. The authors point to the problem of deteriorating efficiency of environmental spending in the selected EU countries caused by the increase in spending.

The composition of government spending on environmental protection was analysed by Ercolano and Romano (2018) when they examined models of environmental spending at the European level (selected EU Member States, the United Kingdom, Iceland and Norway) between 2002 and 2010. As the authors show, public spending on environmental protection, as well as its distribution across different initiatives and policies, varies greatly between countries. However, when linking government spending to environmental outcomes such as greenhouse gas emissions and the expansion of renewable energy sources, not only the level but also the efficiency of environmental spending should be considered. The authors disagree with the notion that environmental public spending is converging across European countries, as the composition of spending in this area has remained stable. Moreover, the results indicate that higher levels of environmental performance are positively associated with environmental public spending and are partially correlated with variations in the composition of public spending. Zhou and Zhang (2020) examined the efficiency of fiscal policies to reduce pollution in 30 Chinese provinces from 2007 to 2017 using the data envelopment analysis method (DEA). Paying particular attention to the eastern parts of the country, the authors experimentally showed that this area has improved since 2014. The analysis showed that decentralisation of tax expenditure had a detrimental effect on the efficiency of environmental tax policy, while decentralisation of tax revenue had no discernible effect. It was suggested that the control of public expenditure on environmental protection and pollution should be strengthened.

Apergis et al. (2013) analysed the degree of convergence in public expenditure for a panel of 17 EU countries over the period 1990 to 2012, and their findings point to divergences among EU Member States in the level and composition of environmental expenditure. Indeed, there is no single model of fiscal policy that enables the enhancement of economic growth, prosperity and social well-being, including environmental quality, which influences people's life evaluation from country to country. In their empirical study, Ullah et al. (2020) examined the asymmetric effects of fiscal policy on environmental quality in ten Asian countries between 1981 and 2018, including China, India, Turkey, Iran and Japan. The authors identified the negative effects of a positive shock in government spending on environmental quality for China, India, Turkey and Thailand, among others, using a nonlinear autoregressive distributed lag technique; however, they found positive effects only in Japan. On the other hand, only in the case of Japan did environmental quality deteriorate over the period studied due to the reduction in government spending. In addition, there was an increase in government spending due to higher government income tax revenues, which in turn led to an increase in carbon emissions everywhere except Japan. According to the authors, in most Asian countries the short-term asymmetric effects have evolved into long-term effects.

Gholipour and Farzanegan (2018) examined the impact of government spending on environmental protection on air pollution in Middle East and North African (MENA) countries using data from 1996 to 2015. Their results show that government spending on environmental protection alone does not significantly improve environmental quality. However, improvements in the quality of governance do influence the final environmental effects of government spending in the MENA region. Halkos and Paizanos (2013) examined public spending on the environment in 77 countries between 1980 and 2000, and the direct and indirect effects that this spending had on income levels and pollution. The authors focused on carbon dioxide and sulphur dioxide emissions and found that while government spending had little direct impact on per capita carbon dioxide emissions, it had a negative indirect effect. According to the authors, a reduction in government spending in high-income countries improves both income and environmental quality, as a further increase in government brings fewer benefits due to the environmental regulations and standards already in place.

According to an analysis by Krajewski (2016) based on data from 2001 to 2012 for eleven Central European countries, the results show that public spending on environmental protection has a positive impact on economic growth, with this effect being strongest in economies affected by the global financial crisis. In addition, Caglar and Yavuz (2023) examined how environmental spending

and renewable energy affect the capacity utilisation factor for 22 countries in the EU. Their analysis found that environmental expenditure is insufficient for EU economies, while renewable energy consumption contributes to environmental quality. The authors argue that EU countries should allocate more budgetary resources to environmental protection and adopt policies that can attract private investment in a green environment. Considering the indirect effects of reduced government spending on environmental protection on income, Halkos and Paizanos (2013) argue that downsizing the state in developing countries can lead to environmental degradation. Therefore, reductions in government spending in developing countries should be accompanied by the introduction of environmental regulations and standards, including the ratification of international environmental treaties. In contrast, reducing government spending in higher-income countries leads to improvements in both income and environmental quality, especially in the long run.

Spending on environmental protection is likely to decline as the economy moves towards greener businesses, technologies and energy sources. However, this may lead to a shift of dirty sectors from higher-income to lower-income countries, while capital accumulation in the former group of countries may serve as a catalyst for the development of green technologies. Pietrapertosa et al.'s (2018) analysis of SEE countries shows that only a few of the countries included in the analysis have developed a comprehensive national adaptation strategy and national action plans. Nevertheless, almost all countries have adopted cross-sectoral adaptation measures. Although these measures have only partially led to a comprehensive commitment to climate adaptation, they testify to an increasing awareness and a high level of participation of national and local authorities that will foster cooperation among stakeholders to find innovative solutions to empower society and protect the environment.

3. DATA AND METHODOLOGY

A non-parametric mathematical model - data envelopment analysis (DEA) - was used to assess the relative or technical efficiency of comparable units based on empirical data on their inputs and outputs. The model – DEA was developed by Farnell (1957) and later by Charnes et al. (1978). As such, it determines the most efficient units in a given set without assuming any functional relationship between inputs and outputs. The data on the selected inputs and outputs for all analysed decision makers (DM) are incorporated into a linear programme that represents the selected model DEA. Since the efficiency of a decision maker is measured relative to other decision makers, it is a relative efficiency whose value lies between 0 and 1, with deviations from 1 being due to a surplus of inputs or a shortage of outputs. It determines the empirical efficiency frontier (the production possibility frontier) by reducing inputs from below and outputs from above. There are two basic models for DEA. The first is the Charnes-Cooper-Rhodes model (CCR) and the second is the Banker-Charnes-Cooper model (BCC). Coelli et al. (2005) found that the results obtained with the CCR and BCC models decompose the values of technical efficiency calculated under the assumption of constant returns to scale into pure technical efficiency and scale-induced efficiency. The CCR model implies constant returns to scale, which means that output variables increase proportionally to input variables (Cooper et al., 2006). The BCC model, on the other hand, was developed by Banker, Charnes and Cooper in 1984. It is represented by a convex shell of decision makers with linear and concave characteristics and assumes increasing returns to scale. To obtain meaningful empirical results, the most important step in formulating a DEA model is the selection of input and output variables. All variables as well as their definitions and data sources for each country analysed are listed in Table 1.

Table 1. Description of variables

Variable	Role	Definition	Data sources

Environmental protection expenditures (% of GDP) (Env_pro_exp)	Input	Government expenditures on a specified set of activities including pollution abatement, protection of biodiversity landscape, waste and wastewater management. It is measured annually.	International Monetary Fund (IMF)
Renewable energy consumption (Ren_ene_con)	Output	Renewable energy consumption is the share of renewables energy in total final energy consumption. It is measured annually.	World Bank
CO_2 emissions (metric tons per capita) (CO2_emissions)	Output	Carbon dioxide emissions are those stemming from the burning of fossil fuels and the manufacture of cement. They include carbon dioxide produced during consumption of solid, liquid, and gas fuels and gas flaring. It is measured annually.	World Bank
Forest area (% of land area) (Forest_area)	Output	Forest area is land under natural or planted stands of trees of at least 5 meters in situ, whether productive or not, and excludes tree stands in agricultural production systems. It is measured annually.	World Bank

Source: Prepared by authors.

4. RESULTS

The descriptive statistics of the average values for all variables used in the DEA analysis are shown in Table 2.

Table 2. Descriptive statistics

Variables	Mean	Std. Dev.	Min	Max
Env_pro_exp	.5840	.05041	.5468	.6414
Ren_ene_con	23.7390	1.8988	21.8585	25.6557
CO_2_emissions	4.6480	.3150	4.2952	4.9010
Forest_area	34.2559	.0135	34.2441	34.2707

Source: Author's calculation.

Based on the above data, the descriptive statistics show that the observed variables vary widely across selected SEE countries. This can be seen in the wide range between the minimum and maximum values. The average renewable energy consumption (% of total final energy consumption) of selected SEE countries is 23.739, with the highest value being 25.656 and the lowest 21.858.
After the data analysis based on the two basic models DEA (CCR and BCC) of an input-oriented model, the efficiency estimation yielded some interesting results. The results are shown in Table 3.

Table 3. Efficient scores

DMU	2018		2019		2020	
	CCR	BCC	CCR	BCC	CCR	BCC
Albania	1.00	1.00	0.96	1.00	0.74	1.00
Bulgaria	0.27	1.00	0.30	0.49	0.32	0.50

Croatia	1.00	1.00	1.00	1.00	1.00	1.00
Cyprus	0.74	1.00	0.77	1.00	0.71	1.00
Greece	0.14	1.00	0.14	0.23	0.13	0.18
Romania	0.17	0.17	0.19	0.20	0.23	0.25
Slovenia	0.42	1.00	0.45	1.00	0.48	1.00

Source: Author's calculation.

The results show that among the SEE countries studied for the period 2018-2020, only one country – Croatia is efficient in both DEA models. Looking at each DEA model individually, the results are different in the SEE countries. The country with the highest efficiency of environmental expenditure is Albania, followed by Cyprus. On the other hand, the countries with the lowest efficiency are Greece and Romania. The reason for this is the lack of environmental protection regulations and insufficient financial support from government institutions. In general, the diversity of empirical results in the selected countries of SEE shows that there are different approaches and strategies for environmental protection and pollution reduction. This is something that needs to be improved and implemented with new regulations.

5. CONCLUSION

In the coming years, all countries of SEE will have the opportunity to move forward on their individual European path by implementing crucial reforms and undertaking political, economic and social transformations. However, government spending on environmental protection may be the result of national priorities and circumstances, as well as a common ambition to achieve environmental goals in line with European directives. The aim of this paper was therefore to examine the efficiency of environmental protection spending in selected countries SEE in the period 2018-2020. The results showed a significant difference in the efficiency of environmental spending. This is evidence that there are different approaches and strategies for environmental protection in selected SEE countries.

The full extent of the war in Ukraine and its impact on the energy sector has not yet been realised. The decision of EU member states to reverse their decision to close coal-fired power plants in order to prevent a collapse of the energy grid reinforces the decision of SEE leaders to continue using coal and even to rebuild obsolete plants. The countries of SEE have not abandoned the transition to green energy; on the contrary, they have accelerated it. However, real-time demand is forcing them to reconsider their investments in coal-fired power plants. Interconnection via other gas supply networks or even the construction of LNG plants, as in Albania and Croatia, may not offer immediate solutions, but they can provide security for the governments of the SEE countries in the near future.

SEE countries have to deal with a number of political problems, including the usually poor public administration, which hinders the efficient implementation of all policies and legislation. Future legislative and regulatory developments will also have an impact on the region. Sweeping agreements to combat climate change could reshape transport and energy networks across the world, including in the Western Balkans. The region will also be affected by the future of EU environmental law and policy. Countries can strengthen their environmental legislation by bringing it in line with EU standards. However, for these measures to be effective, governments need to improve the implementation of their environmental policies, including enforcement measures. At the national level, countries should recognise from SEE the benefits of the energy transition for local society, both in terms of improved health and economic performance. EU policy makers should focus their attention on the inadequate environmental regulations in the region and provide further substantial financial support to enable the transition. Given the war in Ukraine and its immediate impact on the energy security and economic recovery of the Western Balkans, the EU should do more to ensure that the Western Balkans do not revert to outdated and unsustainable

energy production habits. Like any study, this one has its limitations. These lie in the data availability of selected SEE countries, which limits our research. Therefore, the recommendation for further research is to expand the sample to other countries and to observe a longer period of time.

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GREEN GROWTH INDEX AND FINANCIAL INCLUSION

ABSTRACT

After the appearance of the global financial crisis in 2008, efforts to transition to a green economy based on sustainable development began, both at the national and international levels. With the development of the financial sector and the growth of the economy, there is an increasing impact on the environment and human health. Green growth has recently received considerable attention as countries and their inhabitants face ever greater, more difficult and complex social, environmental, financial and economic challenges and periods of crisis. This paper examines and further explains the basic determinants of green growth and financial inclusion of countries, as very important determinants of financial and economic sustainable growth and development of countries in the modern era. Therefore, the main goal of the paper is to determine whether there is a connection between the Green Growth Index and the financial inclusion of countries. Financial inclusion is expressed using the number of commercial bank branches and the share of loans to the private sector in the country's gross domestic product. Selected countries of the Western Balkans (Albania, Bosnia and Herzegovina, North Macedonia, Montenegro and Serbia) were used in the research, and the research period is 2010-2021. The paper used panel data, which will be explained using descriptive statistics and correlation analysis, and processed in the STATA software package. The main conclusion of the research is that the financial inclusion of the observed countries is statistically negatively related to the Green Growth Index. Therefore, it is up to the governments of those countries to introduce and implement policies that increase financial inclusion and the development of the banking sector, but in a way that is consistent with encouraging green growth, that is, preventing environmental degradation.

Keywords: Green Growth Index, financial inclusion, Western Balkans, environmental degradation

JEL: F36, F43, F63, F64

1. INTRODUCTION

The globalization of business is the main cause of the high speed of change in the world during the last few decades. The vast majority of changes are related to innovations that have a lot of impact on people and their lives. Since the United Nations Conference on Environment and Development in 1992, the development of action plans and strategies for sustainable development has acquired a global character. Increasing economic and environmental instabilities in world markets forced researchers and policy makers in certain countries to explore different ways and approaches in order to achieve economic growth that is in line with increasing environmental requirements on the market in the simplest possible way. Increasing competition in world markets forces countries to compete in terms of economic growth, with the fact that this growth should be such that it does not threaten the environment and the social well-being of people. In this connection, there was a need for sustainable development, that is, such development that meets the needs of current generations without compromising the ability of future generations to meet their needs (World Commission on Environment and Development, 1987, p. 16).

There are many factors, such as the development of technologies, the increasing growth of capital flows, economic and financial integration, different types of crises, etc., which contribute to the

development of the financial sector and financial globalization (Lane & Milesi-Ferretti, 2008). On the other hand, the development of the country's financial sector could reduce poverty and increase financial stability by enabling easier financing of companies and individuals, encouraging innovation and investment in new business ventures, as well as creating new jobs for the population and countries. The positive relationship between economic growth and financial inclusion is a very important factor in the development of a country because in this way the necessary capital is provided and innovation in the country is supported (Kim et al., 2018). Improving sustainable financial policies can encourage policy makers to support innovative financial products, improve regulation as well as increase public-private cooperation (Ahmed et al., 2015). Such activity of the financial sector can improve the environment and at the same time contribute to the sustainable growth and development of the country.

According to Nasreen et al. (2017) those countries that have a more developed financial system therefore have better and higher economic growth, as well as environmental performance, compared to the countries with weak financial systems. A well-developed financial system will stimulate the financing of environmentally friendly projects, thus making the use of resources economical, while at the same time punishing companies that damage the atmosphere or otherwise harm the environment (Yang et al., 2020). However, on the other hand, the development of the financial sector could also be a source of financing for many environmentally undesirable and unacceptable activities and projects undertaken in countries (Khan et al., 2019). If there is a large financial inclusion of the population in countries, then consumers in those countries are enabled to obtain loans for the purchase of some highly polluting items such as cars, air conditioners and electrical appliances, washing machines, among others, which can degrade the environment (Kizito et al., 2020).

The concept of financial inclusion has been recognized since the 1990s as a policy problem for socially excluded residents, and many empirical studies related to financial exclusion have appeared (Leyshon and Thrift, 1996). According to the World Bank definition, financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable manner. Financial inclusion is otherwise considered a driver for seven of the seventeen sustainable development goals. The increased use of the Internet in many countries in the 21st century has increased the activities of financial institutions and financial systems around the world to provide services to an increasing number of people, who would otherwise be left out by the traditional banking system (Stanescu & Gikay, 2021, p. 95). The COVID-19 pandemic has reinforced the need for greater digital financial inclusion, which entails implementing cost-saving digital assets. It can be said that there is no consensus regarding the relationship between financial development and green growth, considering that financial development could improve, worsen or not affect environmental sustainability (Gök, 2020). Financial inclusion and sustainable, green growth and development represent one of the major challenges in modern countries. It is safe to say that achieving green growth with simultaneous financial stability in the market is the dream and desire of many world economies, precisely because economic growth, financial inclusion and financial stability generally lead to environmental degradation.

2. PREVIOUS RESEARCH

There is a lot of research that has been done on financial inclusion and its relationship to green growth. Most of the research was done for the most developed countries of the world or their groups. The results that were reached showed that the findings are different with regard to the countries that were observed, the periods that were taken in the research as well as the basic indicators that expressed the mentioned variables. It can be easily noticed that a lot of research has been done in the last 10 years, considering the growing need to include environmentally friendly

projects in the concept of financing and growth of countries. In the following, some of the research will be presented, as well as the basic conclusions reached by considering the above issue.

Daniek (2020) performed a comparative assessment of selected sets of indicators used to measure the transition to a green economy. The work used the indicators proposed by the OECD (Organization for Economic Co-operation and Development) and the UNEP (United Nations Environment Programme) based on four observed dimensions: economic, social, ecological and political. In addition, the work includes research on the measurement of the green economy in Poland (the Green Economy Index created by Bożenan Ryszawska) and the Green Economy Indicator in Poland, published by the Central Bureau of Statistics in Poland in 2017. It was concluded that the choice of the right indicator will always cuase debates and that the choice will depend on the specifics of the countries under investigation.

Kizito, Guptan and Lean (2020) examined two outstanding questions related to the relationship between financial system development and environmental quality. In the paper, they used CCE (Common Correlated Effect) and GMM (Generalized Method of Moments) estimators to see cross-sectional dependence in a panel data that included 58 countries. Analyzing panel data, they concluded that the structure of the financial system is important in the process of preserving the quality of the environment.

Ye et al. (2021) investigated financial development and environmental sustainability in Malaysia over the period 1987–2020 using the ARDL (Autoregressive Distributed Lag) research technique. They concluded that financial development, population growth, economic growth and energy use have positively and significantly worsened ecological sustainability in the country, i.e. contributed to environmental degradation both in the short and long term.

Ibrahim and Vo (2021) examined the relationship between financial innovation and environmental degradation in a sample of 27 selected industrialized countries in the period 1991–2014. They concluded that greater innovation worsens environmental degradation, i.e. that increased financial development has a negative impact on the environment.

Saadaoui and Chtourou (2022) studied the impact of financial development on the use of renewable energy on the example of Tunisie in the period 1984–2017. The Granger causality test was used in the research and it was concluded that institutional quality and economic growth favorably influence the use of renewable energy, and that renewable energy can benefit institutions as well as the economy as a whole.

Saleem, Nasreen and Azam (2022) in their study quantified the impact of financial inclusion and export diversification in achieving green growth goals. Their sample of countries was the SAARC (South Asian Association for Regional Cooperation) countries, and the research period was 2000–2019. They came to the conclusion that institutional quality and financial inclusion have a very large role in achieving green growth, while export diversification is inversely related to green growth in the mentioned countries. It was also concluded that green growth and export diversification have no impact on the financial inclusion of countries.

Derweesh, Khudari and Othman (2023) reviewed and studied previous research on the relationship between financial development and carbon emissions, which increases as the financial sector develops and as economies grow. In addition, they tried to identify the basic factors that contribute to this relationship, and the research used a systematic review of previous literature on the mentioned problem. They came to the conclusion that the findings of various studies are contradictory, that is, that some show a positive correlation and others very little or no correlation between the ecological performance index and economic growth.

Bang, Hang and Dao (2023) investigated the factors influencing the development of green banking in Vietnam using structural equation modeling analysis. In addition to quantitative research techniques, qualitative techniques were also used in the research. They found out that banking technology has a significant impact on both green banking and the green economy. In addition, this research identified some additional factors important for the development of green banking in this country, such as financial capacities, support policies, legal frameworks and state regulations.

Chien (2023) studied the concept of green investment, eco-innovation and financial inclusion, as well as their impact on China's sustainable development in the period 1991–2020. The BARDL model (Bayesian Auto-Regressive Distributed Lags model) was used and it was concluded that green investments, research and development expenditures, eco-innovations, depositors and borrowers of commercial banks, and commercial banks branches have a positive and significant relationship with sustainable development, that is, the Human Development Index in China.

Sajid et al. (2023) investigated the association of institutional quality, renewable energy, green growth, environmental sustainability and financial inclusion with financial stability. Authors used two basic econometric models in the period 1990–2020. They came to the observation that financial inclusion and institutional quality are positively related to financial stability. On the other hand, green growth, environmental sustainability and renewable energy mechanisms can be achieved through financial stability.

Shen, Hong, Blancard and Bai (2023) conducted a study that used panel data to investigate the impact of digital financial inclusion on agricultural green performance. The research covers the period 2012–2018 for 26 cities in China's Yangtze River Delta region. The results showed that technological progress in the mentioned area contributed to improve the green financial agricultural performance, regardless of the differences in the cities that were observed. This means that the development of inclusive digital financing has significantly increased agricultural productivity, with the emphasis being that the positive effect will be further increased as the traditional way of financial business develops.

Nauman, Naheed and Khan (2023) tried to find the interrelation between environmental conservation, social equality and economic prosperity of the country. Greenhouse gas emissions were used as the dependent variable, and green growth, financial risk, financial inclusion, technological innovation, renewable energy and infrastructure as the independent variable. The research period is 2004–2019 and the main conclusion is that greenhouse gases, financial inclusion and infrastructure have a significant positive relationship with green growth, while renewable energy and technological innovation have a significant negative relationship with financial risk.

3. THEORETICAL ASPECTS OF GREEN GROWTH

Green growth implies a country's development approach that seeks to achieve economic growth that is both ecologically sustainable and at the same time socially inclusive. The process of making economic growth greener is formally called green growth (Tawiah et al., 2021). In other words, countries strive to find opportunities for economic growth that is climate-resilient, low-carbon, prevents or reduces pollution, maintains healthy and productive ecosystems, creates green jobs, reduces poverty and improves the social inclusion of the population (Global Green Growth Institute 2017).

Based on this, it can be said that green growth actually consists of four basic categories, which are presented in Figure 1 and they include: efficient and sustainable resource use, green economic opportunities, social inclusion and natural capital protection. Efficient and sustainable resource use

such as energy, water, land and materials enables the protection of natural capital, which increases productivity. Green economic opportunities, i.e. green investments, green trade, green employment and green innovations lead to the creation of new economic opportunities for the development of the country. Social inclusion implies equal access to services and resources for all residents, that is, it implies gender balance and equality, as well as social protection and equality. Protecting natural capital improves the quality of the environment, protects biodiversity and ecosystems, and increases the cultural and social values of society.

The aforementioned four dimensions of the Green Growth Index are often called the pillars of green growth. The OECD states that green growth "promotes economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies" (Fouquet, 2019, p. 6).

Figure 1. Conceptual framework for the Green Growth Index
Source: Acosta et. al. 2022, p. 3

As more and more attention is paid to sustainable development, the term "environmental performance" has become widely used. Environmental performance can also be understood as the size of the environmental impacts of basic economic activities, such as production and consumption, in a given period and within a specific economic area (firm, region or country). The complexity of various environmental factors, which include air, water, land, energy and biodiversity, which must be taken into account during the economic growth and development of a country, greatly complicates the measurement of the impact of financial development and inclusion on the ecological dimension of a country's growth.

4. RESEARCH METHODOLOGY

The paper examines the interdependence of the Green Growth Index and the financial inclusion of countries. Certain countries of the Western Balkans (Albania, Bosnia and Herzegovina, North Macedonia, Montenegro and Serbia) were observed in the period from 2010 to 2021. It is full balanced panel data obtained from secondary data sources of the World Bank and the Global Institute for Green Growth.

The Green Growth Index measures a country's ability to achieve the Sustainable Development Goals (SDG). The index consists of four dimensions of green growth: social inclusion (involvement), natural capital protection, efficient and sustainable resource use and green economic opportunities. The Green Growth Index can range from 1 to 100, with green growth performance being designated as: 1-20 very low, 20-40 low, 40-60 moderate, 60-80 high and 80-100 very high. If a country has an index of 100, it indicates that the sustainability goals have been achieved.

On the other hand, the financial inclusion of countries was analyzed based on the number of commercial bank branches (per 100,000 adults) and domestic loans to the private sector from banks (as a percentage of gross domestic product – %GDP). Otherwise, it is considered that financial inclusion is higher when the values of the mentioned indicators are higher. Based on the above, it can be said that the measurement of the variables used in this work was performed as in the data listed in Table 1.

Table 1. Measurement variables and data sources

Variable	Measure	Source
Green growth	Green Growth Index – GGI	Global Institute for Green Growth
	Social inclusion	
	Natural capital protection	
	Efficient and sustainable resource use	
	Green economic opportunities	
Financial inclusion	Commercial bank branches (per 100,000 adults)	World bank
	Domestic loans to the private sector from banks (% of GDP)	

Source: Author

The main research hypothesis is: There is a statistically significant relationship between the Green Growth Index and financial inclusion. The dependent variable is the Green Growth Index and the independent variable is financial inclusion. Data analysis was performed using descriptive statistics, in order to explain the basic characteristics of variables and their change over time, as well as using correlation analysis, which was used to explain the relationships between variables. The direction of the relationship (positive or negative) and the statistical significance of the coefficients will be analyzed. The *pwcorr* correlation was used. The most important changes and characteristics of the observed research variables and their indicators are presented in graphical and tabular displays. The data were processed in the STATA software package.

5. RESULTS AND DISCUSSION

The paper used descriptive statistics that show the details of the variables used in the paper, so these data are presented in Table 2. The results of the analysis showed that the mean value of the Green Growth Index was 57.27 while the mean values of the number of branches and domestic loans to the private sector from banks were 29.85 and 46.75, respectively. The above shows that the observed countries of the Western Balkans had a moderate performance of green growth in the observed period. It can also be seen how the maximum values of the observed green growth indicator have values that show high performance only in a certain period, while for the vast majority of observed years it is about achieving moderate green growth performance. In addition, it can also be seen that no low performance of the Green Growth Index was achieved in any year, which is very positive. Regarding commercial bank branches and domestic loans to the private sector, it can be noted as significant that the amount of loans to the private sector from banks had a

maximum value of 66.36%, which is quite a large amount, but it is also not surprising considering that commercial banks are the leading and largest participants, compared to all other institutional investors, in the financial market of the observed countries of the Western Balkans.

Table 2. Descriptive statistics for observed variables

Variable	Obs	Mean	Std.Dev.	Min	Max
Green Growth Index – GGI	60	57.27	5.74	44.89	63.83
Social inclusion	60	70.96	4.36	62.94	79.35
Natural capital protection	60	69.81	7.31	59.41	82.49
Efficient and sustainable resource use	60	55.91	12.68	30.66	68.17
Green economic opportunities	60	39.36	6.04	30.87	51.82
Commercial bank branches (per 100,000 adults)	60	29.85	7.39	18.57	44.27
Domestic loans to the private sector from banks (% of GDP)	60	46.75	7.61	30.54	66.36

Source: Author's calculations using the STATA softvare program

Figure 2 shows the value of the Green Growth Index by country in the period 2010–2021. It can be noted that all observed countries had an increase in the mentioned indicator. The country with the lowest Green Growth Indicator in the entire observed period is Montenegro, whose indicator did not exceed the value of 50. All other observed countries had a Green Growth Index ranging from 55 to 65, which indicates moderate and high green growth performance. In addition, it can be seen that all countries had maximum values of the Green Growth Index in 2020.
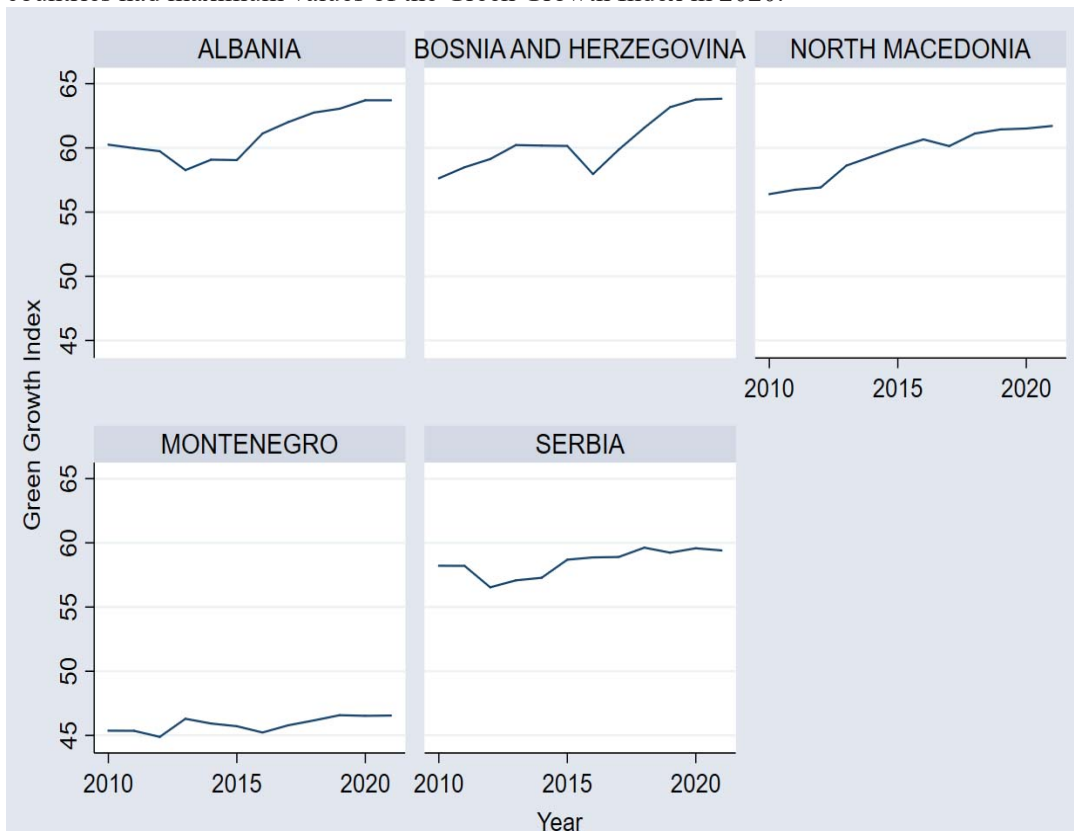
Figure 2. Green Growth Index of the countries of the Western Balkans in the period 2010–2021
Source: Author

In Figure 3, it can be seen how the above-mentioned countries of the Western Balkans are in the "green zone" in 2021 compared, for example, to the majority of African countries, which have rather low values of the Green Growth Index (14 countries with the lowest values of Green Growth Index that is between 20 and 40 are the vast majority of countries in Africa and Asia). European trends in all components of the Green Growth Index are growing slightly and more significantly than in other regions, which can be especially noticed in the dimension of social inclusion, where there is an evident increase of five percent, i.e. from 80.97 in 2010 to 84.86 in 2021. A big shift has been made in the dimension of gender equality based on greater participation of women in the labor market, economic independence of women, equality between men and women when making decisions, as well as different promotion of women's rights and protection of women in the world.
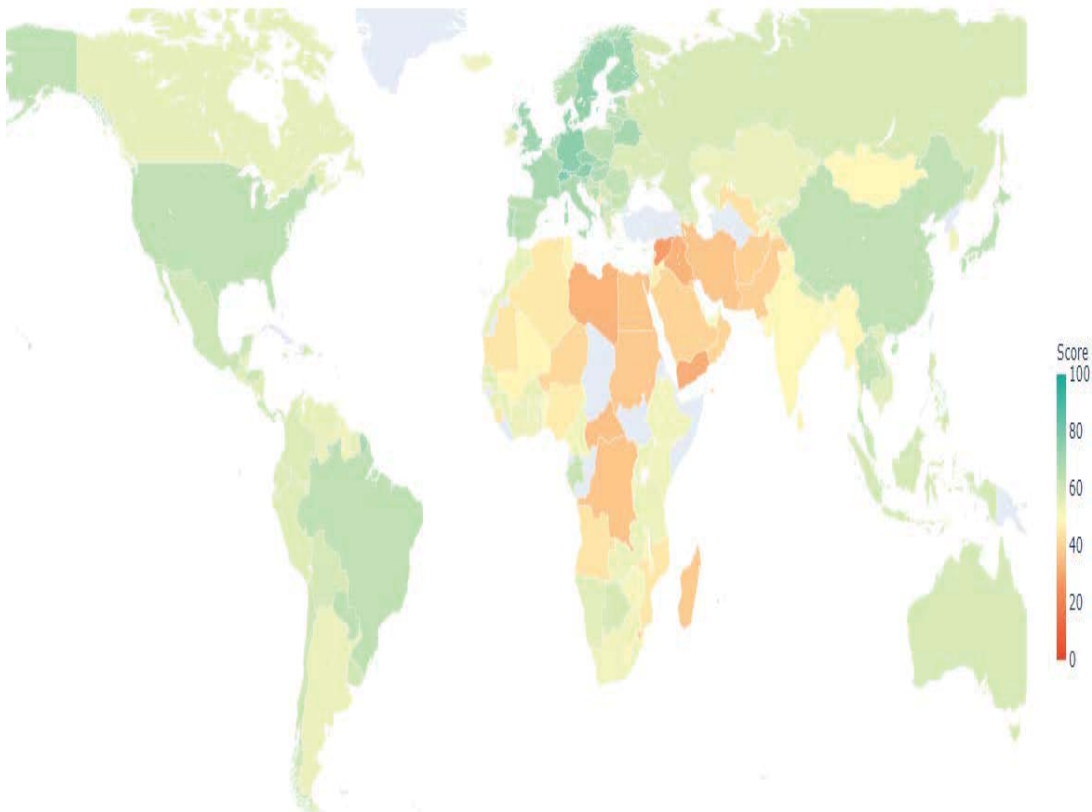
Figure 3. Geographic display of the Green Growth Index in 2021
Source: https://ggindex-simtool.gggi.org, Accessed: 10.11.2023.

If you were to look at all the components of the Green Growth Index separately, as is done in Figure 4, you would see what is the situation for individual countries and the basic components of the Green Growth Index. The results of the mentioned dimensions have improved during the observed period. The greatest improvements were observed in the dimensions of social inclusion and natural capital protection. In all countries, green economic opportunities are at their lowest level. Albania and Montenegro have the highest values for the natural capital protection, while Bosnia and Herzegovina, North Macedonia and Serbia have the highest values for social inclusion.

Figure 4. Dimensions of Green Growth Index for the countries of the Western Balkans in the period 2010–2021
Source: Author

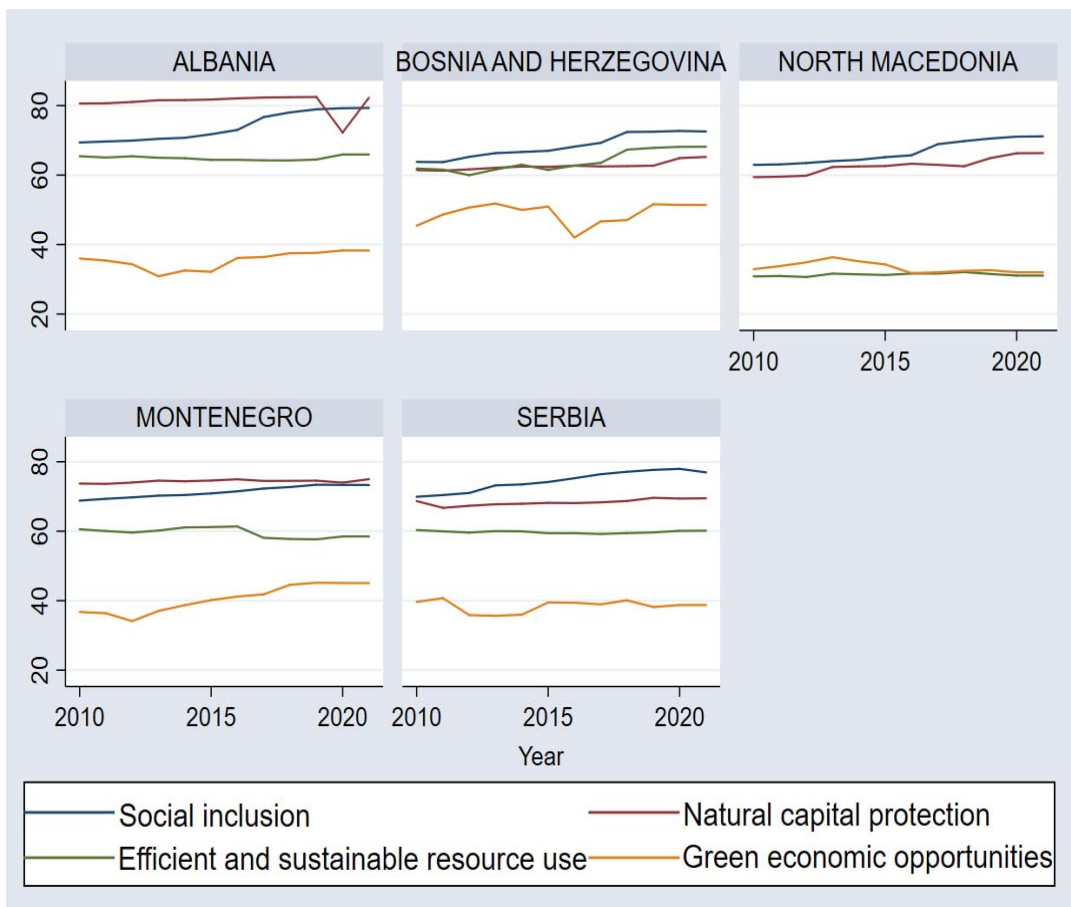Average values of Green Growth Index categories for the period 2010–2021 for the observed countries of the Western Balkans are given in Figure 5. The average value of social inclusion was in Serbia and it was 74.46 (high performance). Albania had the highest average value of natural capital protection in the amount of 80.93 (very high performance of the mentioned indicator). When it comes to efficient and sustainable resource use, Albania again had the best result, whose average value of the mentioned indicator in the observed period was 64.96 (high performance). Bosnia and Herzegovina had the highest average value of the green economic opportunity indicator and it was 48.98 (moderate performance) in the mentioned period.

For the financial inclusion variable, it was stated that the number of commercial bank branches (per 100,000 adults) and domestic loans to the private sector from banks (% of GDP) will be observed. Figure 6 shows the average values of the above indicators in the observed research period. It can be noted that the highest average number of commercial bank branches (per 100,000 adults) in the observed period was in Montenegro (40.35) and then in Serbia (31.53). The average value of domestic loans to the private sector from banks as a percentage of GDP was the highest in Montenegro (53.47), followed by Bosnia and Herzegovina (53.19).
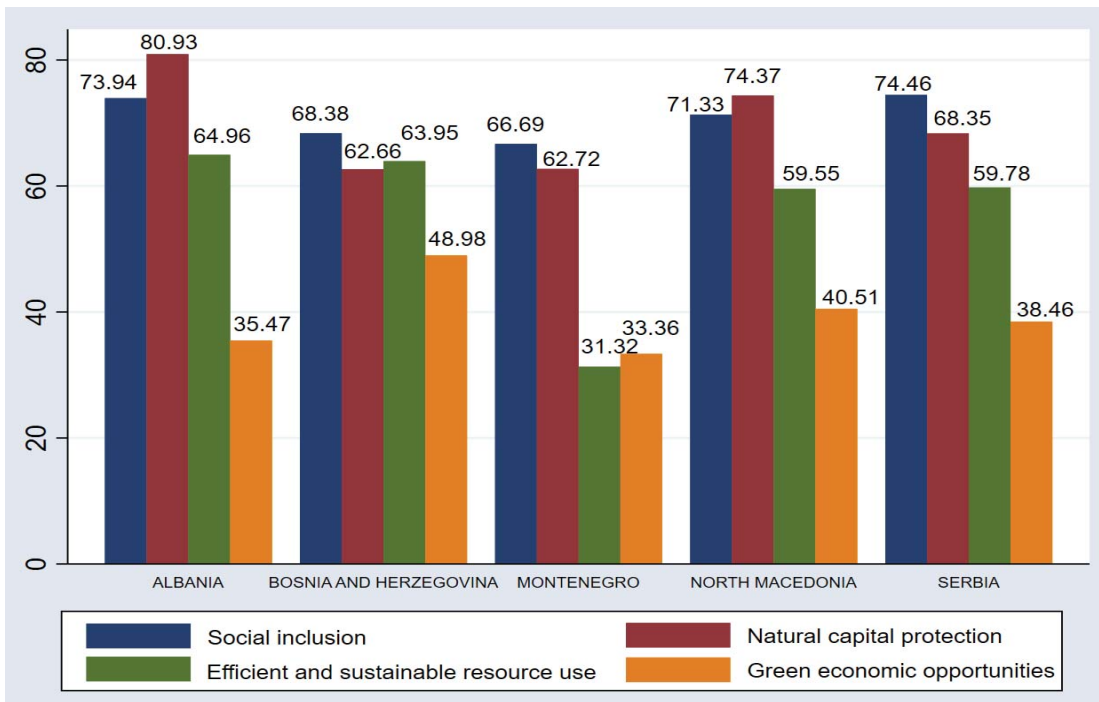
Figure 5. Average values of green growth dimensions by country for the period 2010–2021
Source: Author
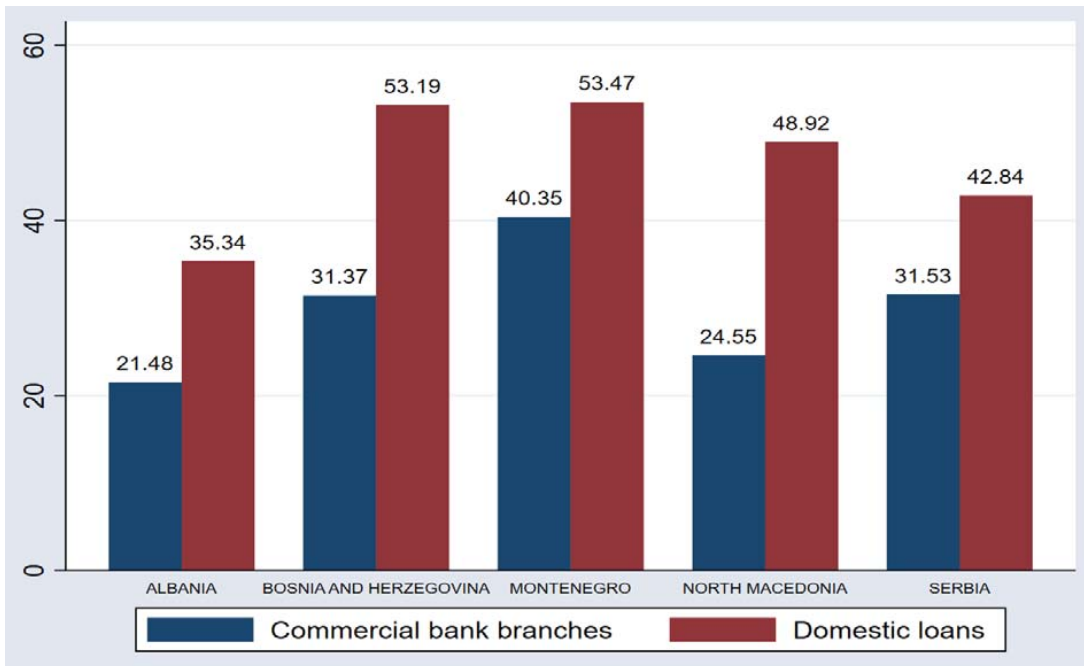
Figure 6. Average value of financial inclusion components by country for the period 2010–2021
Source: Author

It is already easy to notice that the country with the lowest value of the Green Growth Index (Montenegro) has the largest number of commercial bank branches as well as the largest amount of loans to the private sector. However, in order to see exactly what the interrelationships are between the Green Growth Index (and its constituent components) and financial inclusion indicators, the

mentioned indicators will be presented using the correlation matrix, i.e. using *pairwise* correlation. The obtained values of the correlation analysis are presented in table 3.

Table 3. Correlation matrix of indicators of green growth and its components with indicators of financial inclusion (*Pairwise correlations*)

Variables	ggi	si	ncp	esru	geo	branches	loans
ggi	1.000						
si	0.594*	1.000					
	(0.000)						
ncp	0.521*	0.561*	1.000				
	(0.000)	(0.000)					
esru	0.966*	0.493*	0.506*	1.000			
	(0.000)	(0.000)	(0.000)				
geo	0.578*	-0.008	-0.295*	0.503*	1.000		
	(0.000)	(0.949)	(0.022)	(0.000)			
branches	-0.771*	-0.641*	-0.801*	-0.728*	-0.121	1.000	
	(0.000)	(0.000)	(0.000)	(0.000)	(0.357)		
loans	-0.452*	-0.667*	-0.770*	-0.479*	0.339*	0.595*	1.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.008)	(0.000)	

*** $p<0.01$, ** $p<0.05$, * $p<0.1$
Source: Author

In Table 3, the following labels are used for the variables:
➢ ggi – Green Growth Indeks
➢ si – social inclusion
➢ ncp – natural capital protection
➢ esru – efficient and sustainable resource use
➢ geo – green economic opportunities
➢ branches – commercial banks branches (per 100,000 adults)
➢ loans – domestic loans to the private sector from banks (% of GDP)

Based on the obtained values from Table 3, several important facts related to the Green Growth Index and the financial inclusion of the countries of the Western Balkans for the period 2010-2021 can be concluded. All values of the Green Growth Index and its components have a statistically significant relationship with financial inclusion indicators at a significance level of $p<0.05$. Only the green economic opportunities indicator is not statistically significantly related to the commercial bank branch indicator (p=0.357). When it comes to the direction of the relationship, a negative direction of the relationship is present for most of the indicators, which implies that an increase in financial inclusion causes a decrease in the Green Growth Index, and vice versa. Again, only the green economic opportunities indicator is positively related to the amount of domestic loans to the private sector from banks as a percentage of GDP. When it comes to the strength of the relationship, the results show the following: natural capital protection has the strongest relationship with commercial bank branches (-0.801 - large negative strength of relationship), and the green economic opportunities indicator has the smallest relationship with the commercial bank branch indicator (-0.121 - small negative strength connections). If only the relationship between the Green Growth Index and the financial inclusion indicator is observed, it can be noted that the Green Growth Index has a strong negative relationship with commercial bank branches and a medium negative relationship with domestic loans to the private sector from banks (% of GDP).

6. CONCLUDING REMARKS

Every country strives to achieve certain rates of economic growth, while facing two main challenges, particularly pronounced in the last two decades. One of the challenges is to increase their economic growth and development, and the second challenge is to reduce environmental degradation, that is, to achieve green growth of the country. Most of the countries' growth is based on the growth of the financial sector, primarily the banking sector, since commercial banks are the leading financial institutions in the financial market in most of the observed countries.

The paper analyzes the relationship between the Green Growth Index and the financial inclusion of selected countries of the Western Balkans in the period 2010-2021. The correlation analysis established that there is a statistically negative relationship between the observed variables, that is, that financial inclusion has a negative effect on the green growth of countries. More attention should be focused on promoting green growth with increasing financial inclusion of countries.

Governments of countries should give incentives to institutions in the field of using alternative energy, so that it is possible to switch to renewable energy and thus contribute to the improvement of the quality of the environment and the green growth of the country. In addition, the financing of those projects and investments that do not degrade the environment, that are environmentally acceptable, should be encouraged. In the future, countries will be required to have sustainable financial institutions, which prioritize green growth and institutional quality, in order to achieve financial stability and long-term development of the country in accordance with environmental requirements and sustainable growth and development of the country.

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GREEN TOTAL FACTOR PRODUCTIVITY IN WESTERN BALKAN COUNTRIES BASED ON THE SBM-ML MODEL: A SUSTAINABLE FINANCE PERSPECTIVE

Abstract

Global warming, which is caused by increasing energy-related carbon dioxide emissions, has attracted worldwide attention. The European Green Deal aims to overcome these challenges by transforming the European Union into a resource-efficient, competitive economy that emits zero greenhouse gases by 2050, and enables economic growth to be decoupled from resource use. The driving force of high-quality development is to improve the green total factor productivity (GTFP). This is especially evident in the Western Balkan (WB) countries, and the reason for this is that these countries have the prospect of acceding to the European Union and therefore are called "enlargement countries".
Consequently, this paper analyzes the spatial differences and the evolution of GTFP in the Western Balkans, at a country and regional level, and considers the potential of sustainable finance concept to improve GTFP. In the paper the authors aim to provide a better understanding of the linkages between sustainable finance and GTFP. In the existing GTFP literature that treats the WB6 scholars took only traditional inputs (labor and capital) and desirable outputs (total output, GDP) into consideration but ignored resource inputs and deleterious environmental impacts (undesired). Hence, it is of tremendous significance to study GTFP of the WB6 countries, including resources and environmental factors. Combining the Malmquist-Luenberger (ML) index and the Slack-Based Measure (SBM) model with undesirable output, this paper uses the SBM-ML model to measure GTFP. The model was used to measure GTFP of the WB6 from 2015 to 2020 and analyzes its changes from time and space dimensions. The results from this study indicate that the higher level of development of sustainable finance can lead to the promotion of GTFP, but currently sustainable finance is very modest in scope in the selected countries. The available financial instruments in those countries are banks' and national and international funds' loans for energy efficiency, renewables, agriculture, air pollution, waste and water management, etc.

Keywords: sustainable finance, European Green Deal, green total factor productivity, SBM-ML model, Western Balkans

JEL: O47, P28, G28, Q01, C67

INTRODUCTION

It is considered that more than 80% of global energy consumption is associated with energy derived from non-renewable sources, i.e., fossil fuels such as coal, oil, and natural gas (Rodriguez-Rojas et

al., 2022, pp. 1-2). The combustion of these fuels leads to carbon dioxide (CO_2) emissions, which are the main drivers of climate change and other serious environmental effects (Li, Liu, & Zhao, 2016, p. 2). Therefore, it is necessary to transform existing energy production processes. One of the solutions involves the decarbonization of the energy sector, which would entail adopting new methods for producing and consuming energy, ultimately resulting in reduced levels of CO_2 emissions and a decrease in other harmful gases. In this context, there is a discussion about transitioning to a low-carbon economy, which is a part of the broader framework of ESG principles, encompassing *e*nvironmental, *s*ocial, and *g*overnance aspects. The integration of these principles is crucial and should be an essential step in investment decisions regarding technological innovations for the transition to a low-carbon economy and support for sustainable development (Rodriguez-Rojas et al., 2022, pp. 1-2).

As a key concept for mobilizing the financial resources required to achieve the goals of the European Green Deal and the international commitments made by the European Union (EU) pertaining to ESG principles, the concept of sustainable finance emerges (IDOP, s.a.). Sustainable finance (or sustainable financing) refers to the practice of incorporating sustainable principles into finance and emphasizes environmental, developmental, and institutional aspects of investments to promote sustainable development (Cheng et al., 2019, p. 1). This implies that sustainable finance as a concept involves green finance and climate change financing. Brühl (2021, p. 325) suggests that green finance, or green financing, can be seen as the financing of investments that yield environmental benefits, such as reducing air, water, and soil pollution, lowering greenhouse gas emissions, enhancing energy efficiency, and mitigating and adapting to climate change. The rise of green financing has been driven by growing concerns about environmental issues (Lyu, Gu, & Zhang, 2023, p. 52859). Green financing provides financial support for companies to meet environmental protection requirements and manage their operations through financial instruments such as green loans, which reduce environmental and business risks. This can enable companies to enter new markets and create new business opportunities (Li, Chen, & Umair, 2023, pp. 2-3). For most developing countries, green loans constitute the primary source of funding for green projects and serve as the main driver for establishing a green financial system (Hu, Li, & Feng, 2022, p. 1) while more sophisticated financial instruments are present in developed countries. This distinction is particularly evident in Western Balkan countries aspiring to join the EU. Western Balkan countries exhibit high energy inefficiency levels, characterized by several coal-fired power plants and insufficient renewable energy sources. Despite numerous initiatives and support for the growth of renewable energy sources, substantial effort is still required to create energy-efficient environments. All these problems faced by Western Balkan countries and finding their solutions demand significant investments. Sustainable finance serves as a critical framework for attaining sustainable development goals (Barjaktarović-Rakočević, Rakić, & Joksimović, 2022, p. 117). Hence, the research question arises: At what stage of this process is the Western Balkans and how can mechanisms of sustainable finance be enhanced to support sustainable development?

To analyze the role of finance in supporting sustainable development, this study focuses on green total factor productivity (GTFP). Scholars such as Li, Chen, and Umair (2023, pp. 2-3) argue that GTFP, due to its comprehensive nature, can serve as a benchmark for measuring sustainable development as it incorporates both economic and ecological dimensions. GTFP represents the portion of economic growth that cannot be attributed to input growth alone. In a nutshell, GTFP extends the conventional concept of total factor productivity (TFP) by considering energy consumption and emissions of harmful substances (Cheng et al., 2022, p. 2). Previous research primarily employs Data Envelopment Analysis (DEA), with the choice of a specific DEA model depending on the study's nature (static versus dynamic). Consequently, most studies use panel data to observe changes in GTFP over time, utilizing indices to demonstrate these changes.

Taking into account all the above, in this study, which aims to analyze the spatial and temporal dimensions of GTFP, we employ the Slack-Based-Measure (SBM) model and the Malmquist-Luenberger (ML) index to measure GTFP from 2015 to 2020 across a sample of 32 countries. The calculated GTFP values of will serve as the foundation for assessing the specific context and potential of sustainable finance in enhancing GTFP.

1. LITERATURE REVIEW

The pursuit of rapid economic growth is often in conflict with sustainability, as it requires extensive use of resources and energy, resulting in elevated greenhouse gas emissions (Xu & Zhao, 2023, p. 3). Resource (energy) consumption and greenhouse gas emissions are precisely the factors that distinguish TFP from GTFP. Studies conducted by Wu et al. (2021, p. 112247) and Zhuang et al. (2022, pp. 2794-2807) include energy consumption as an additional input and consider CO_2 emissions, among other greenhouse gases, as undesirable outputs when measuring GTFP. Most research find that GTFP values are lower in comparison to TFP (Lin & Tan, 2016, p. 481; Xu & Zhao, 2023, p. 3). This discrepancy can be attributed to the factors mentioned (i.e., additional input and undesirable output), and policies aimed at reducing these factors contribute to the growth of GTFP. The literature extensively examines the impact of various factors, primarily environmental regulations, on GTFP (e.g., Feng, Yan, & Tao, 2021, p.1-9; Shen et al., 2019, pp. 171-184; He, Han, & Wang, 2021, p. 1-11; Zhao, Liu, & Yang, 2018, pp. 325-334; Liu, Cui, &Li, 2022, p. 7274; He & Jing, 2022, p. 14946; Hou & Song, 2021, p. 472 ; Hu, 2019, pp. 698-706). However, only a limited number of studies analyzes the impact of green or, more broadly, sustainable finance on GTFP. This perspective is introduced by Lee Chi-Chuan and Lee Chien-Chiang (2022, p. 105863), who, in their exploration of the relationship between green finance and GTFP, adress a critical gap in the existing literature. Glomsrød and Wei (2016, pp. 1-10) point out that green financing, as a part of sustainable financing, reduces coal consumption in electricity production by 2.5% and globally increases the share of electricity generated from non-fossil fuel sources from 42% to 46%. Jiakui et al. (2022, p. 1), while investigating the impact of green finance, financial development, and green technology innovation (GTI) on GTFP, demonstrates that green finance significantly enhances green productivity. Similar findings are confirmed by Li, Chen, and Umair (2023, p. 3), who highlight that green financing can improve corporate GTFP by promoting energy conservation and reducing greenhouse gas emissions, with a specific focus on CO_2. These results are consistent with the findings of Gu and Zhang (2022, pp. 1-58).

Barjaktarović-Rakočević, Rakić, and Joksimović (2022, p. 117) assert that sustainable finance practices in Western Balkan countries are relatively modest compared to those in EU countries. Reviewing available financial instruments in the field of sustainable finance reveals that commercial bank loans for financing green projects are the predominant choice. It is worth noting that, following the EU's example, Western Balkan countries must move towards market-based approaches to sustainable finance, particularly through the issuance of green bonds. Apart from the banking sector, there is a certain number of funds financed by international financial organizations and institutions, such as the European Bank for Reconstruction and Development, the European Investment Bank, the International Finance Corporation, and others. These funds offer various loans for purposes like energy efficiency, renewable energy sources, agriculture, air pollution reduction, waste management, etc. Additionally, the central/national banks of Serbia, North Macedonia, Montenegro, and Albania are members of the Network for Greening the Financial System (NGFS).

As this study focuses on analyzing GTFP in Western Balkan countries compared to EU countries, it is esential to consider methodologies used in GTFP measurement. Most of the existing literature (Xu & Deng, 2022, pp. 1-20; Qu, Li, & Wang, 2022, pp. 307-317; Shi et al., 2022, pp. 1-9, Cheng et al., 2022, p. 1-19, Hu, Li, & Feng, 2022, p. 1-15, Feng, Yan, & Tao, 2021, pp. 1-9; Hou & Song, 2021, p. 472; He, Han, & Wang, 2021, pp. 1-11; Liu, Cui, & Li, 2022, p. 7274; Hu, 2019, pp. 698-

706) uses DEA methodology for GTFP calculation. In this regard, Xu and Deng (2022, pp. 1-10) employ the SBM-DDF model and ML index to measure GTFP from both temporal and spatial dimensions. A similar methodology is applied by Shi et al. (2022, pp. 1-9), who use the DEA-SBM model and ML index for measuring green growth.

2. METHODOLOGY OF THE EMPIRICAL RESEARCH

2.1. Model

By introducing resource consumption as an additional input and CO_2 emissions as an undesirable output, we have chosen the Slack-Based Measure (SBM) model, a commonly used choice among many authors (such as Shi et al., 2022, pp. 1-9; Hu, Li, & Feng, 2022, pp. 1-15; Cheng et al., 2022, pp. 1-19; Zhuang et al., 2022; pp. 2794-2807; Lin & Tan, 2016, pp. 480-497). The model can be represented as follows (Shi et al., 2022, p. 3):

$$\rho = \min \frac{1 - \frac{1}{N}\sum_{n=1}^{N}\frac{s_n^x}{x_{k\prime}^t}}{1 + \frac{1}{M+1}(\sum_{m=1}^{M}\frac{s_m^y}{y_{k\prime m}^t} + \sum_{i=1}^{I}\frac{s_i^b}{b_{k\prime}^i})} \tag{1}$$

$$\sum_{t=1}^{T}\sum_{k=1}^{K} z_k^t x_{kn}^t + s_n^x = \acute{x}_{kn}^t, n = 1,2,\ldots,N$$
$$\sum_{t=1}^{T}\sum_{k=1}^{K} z_k^t y_{kn}^t - s_m^y = \acute{y}_{k\prime m}^t, m = 1,2,\ldots,M$$
$$\sum_{t=1}^{T}\sum_{k=1}^{K} z_k^t b_{ki}^t + s_i^b = \acute{b}_{k\prime 1}^t, m = 1,2,\ldots,I$$
$$z_k^t \geq 0$$
$$z_k^t \geq 0$$
$$s_n^x \geq 0$$
$$s_m^y \geq 0$$
$$s_i^b \geq 0$$
$$k = 1,2,\ldots K$$

In equation (1), ρ represents the target efficiency value of the Decision-Making Unit (DMU), where $\rho \in [0,1]$. When $\rho=1$, it indicates that the observed DMU is completely efficient. As long as $\rho \neq 1$, there is an efficiency loss in the observed DMU. The closer ρ is to 0, the greater the efficiency loss in the observed DMU, signifying a greater potential for improvement.

Since GTFP reflects changes over time, a dynamic analysis is necessary. The most widely used method is the Malmquist index. Nevertheless, a fundamental criticism of the traditional Malmquist index is its neglect of undesirable outputs. In response to this criticism, Chung and Färe (1995, pp.1-19) propose the Malmquist-Luenberger (ML) index based on the directional distance function (DDF) to overcome the issue of undesirable output omission.

DDF can be represented as follows (Shi et al., 2022, p. 3):

$$\overrightarrow{D_0^t}(x^t, y^t, b^t; g) = sup\{\beta: (y^t, b) + \beta g \in p^t(x^t)\} \tag{2}$$

In equation (2), the direction vector is denoted as $g^t = (y, -b^t)$, where y and b represent the expected and undesirable output, respectively. The "-" sign indicates that the directions of expected and undesirable outputs are opposite. The ML index takes the following form (Chung & Färe, 1995, p. 8):

$$ML_t^{t+1} = \left\{ \frac{[1+\vec{D}_0^t(x^t, y^t, b^t; \ y^t, -b^t)]}{[1+\vec{D}_0^t(x^{t+1}, y^{t+1}, b^{t+1}; \ y^{t+1}, -b^{t+1})]} \ x \ \frac{[1+D_i^{t+1}(x^t, y^t, b^t; \ -b^t)]}{[1+D_0^{t+1}(x^{t+1}, y^{t+1}, b^{t+1}; \ y^{t+1}, -b^{t+1})]} \right\}^{\frac{1}{2}} \qquad (3)$$

GTFP is represented by the value of the ML index. There are three following cases: ML>1, ML=1, and ML<1. If ML>1, then GTFP shows an upward trend. If ML=1, it indicates that GTFP is not changing. If ML<1, it signifies a declining trend in GTFP. The ML index can be further decomposed into GTEch and GTECch. GTEch stands for the index of technical efficiency change while GTECch represents the index of technical progress. The criteria used to evaluate these two values align with those of the ML index. The decomposition function is as follows:

$$ML_t^{t+1} = \text{GTEch x GTECch} \qquad (4)$$

The measurement of GTFP, both in static and dynamic contexts, using the elaborated models, will be conducted with the support of the Stata/MP 17 software package. This involves employing the "sbmeff" command for static efficiency analysis based on the SBM model and the "gtfpch" command for dynamic GTFP analysis based on the ML index.

2.2. Selection of variables and data sources

The measurement of GTFP utilize data from 27 EU countries and five Western Balkan countries spanning the period from 2015 to 2020. Table 1 represents the variables used, along with details regarding measurement methods and data sources.

Table 1. *Selected variables for GTFP measurement*

Variable type	Variable name	Symbol	Measurement method and unit of measurement.	Source	References
Input	Labor input	L	Number of people employed (millions)	Worldbank	Shi et al. (2022)
	Capital	K	Total capital stock (millions of U.S. dollars)	Federal Reserve Economic Data (FRED)	Shi et al. (2022), Xu & Deng (2022)
	Energy consumption	C	Final energy consumption (millions kg of oil equivalent)	Eurostat	Shi et al. (2022)
Output	Gross domestic product	Y	GDP (millions of 2015 U.S. dollars)	Worldbank	Xu & Deng (2022), Shi et al. (2022)
	Carbon dioxide emissions	CO_2	CO_2 emissions (millions kg)	Worldbank	Wu et al. (2021)

Source: Authors' creation

3. RESULTS AND DISCUSSION

3.1. Descriptive statistics

DEA models must satisfy specific assumptions (Popović, 2019, p. 17; Mitrović & Božanić, 2021, p. 44; Cooper, Seiford, & Tone, 2000, p. 2). Their feasibility is determined by the number of used DMUs, positive values of input/output variables, and isotonicity. The first condition requires that the number of DMUs is at least three times greater than the sum of input/output variables, and the second condition necessitates that all variable values are positive. Both conditions are met, as shown in Table 2.

Table 2. *Descriptive statistics of input/output data*

Variable	Obs.	Mean	Std. dev.	Min.	Max.
L	192	6.397.145,00	9.337.387,00	201.455,40	43.000.000,00
K	192	3.031.177,00	5.099.358,00	34.130,89	19.700.000,00
C	192	29.382,04	44.481,59	458,76	204.512,30

Y	192	444.377,90	777.527,10	4.048,14	3.596.646,00
CO$_2$	192	90.072,96	142.509,10	1.352,30	747.147,20

Note: Authors' calculations using Stata/MP17 software
Source: Worldbank, Eurostat, FRED

The fulfillment of the last condition, isotonicity, requires the presence of positive correlation coefficients between variables. An analysis of the correlation matrix (Table 3) confirms that this condition is also met.

Table 3. *Correlation matrix of input/output data*

	L	K	C	Y	CO$_2$
L	1,00				
K	0,94	1,00			
C	0,99	0,96	1,00		
Y	0,96	0,97	0,98	1,00	
CO$_2$	0,97	0,89	0,97	0,93	1,00

Note: Authors' calculations using Stata/MP17 software
Source: Worldbank, Eurostat, FRED

3.2. Static efficiency evaluation based on the SBM model

Table 4 reveals that Ireland (2020), Luxembourg (2016 and 2020), and Sweden (2019 and 2020) have an efficiency value of 1, indicating that these countries achieve Pareto optimal efficiency compared to all other countries in the respective years. Conversely, the lowest-ranked country is Albania (rank No. 32), followed by Serbia (rank No. 31). A similar situation applies to other Western Balkan countries, which are predominantly at the bottom of the rankings (North Macedonia, Montenegro, and Bosnia and Herzegovina). None of these countries achieve an efficiency greater than 0.2 during the observed period, while the European average ranges from 0.38 to 0.42 throughout the period (see Figure 1).

Table 4. *Static efficiency analysis based on the SBM model (EU and Western Balkans, 2015-2020)*

Country/Year	2015	2016	2017	2018	2019	2020	Average	Rank
Albania	0.114178	0.117597	0.115063	0.116869	0.119792	0.122336	0.117639	32
Austria	0.441692	0.443845	0.446248	0.460303	0.461049	0.440939	0.449013	10
Belgium	0.444109	0.444831	0.447795	0.447796	0.45531	0.439916	0.446626	11
Bosnia and Herzegovina	0.203354	0.200064	0.200829	0.192462	0.192118	0.188719	0.196258	27
Bulgaria	0.192325	0.195219	0.194791	0.197587	0.202591	0.197043	0.196593	26
Croatia	0.210004	0.215783	0.218561	0.224982	0.230105	0.212688	0.218687	23
Cyprus	0.26747	0.277904	0.285439	0.296395	0.307155	0.300978	0.289223	15
Czechia	0.203045	0.205247	0.212938	0.218786	0.225038	0.215032	0.213348	24
Denmark	0.682505	0.698613	0.743115	0.756532	0.809633	0.820819	0.751869	4
Estonia	0.236926	0.239109	0.247763	0.252164	0.265857	0.277481	0.253216	20
Finland	0.46436	0.466126	0.480855	0.474113	0.483083	0.489696	0.476372	8
France	0.487527	0.487539	0.496904	0.511777	0.524829	0.50309	0.501944	6
Germany	0.450782	0.453624	0.464435	0.470719	0.477516	0.47214	0.464869	9
Greece	0.250977	0.248794	0.251379	0.25874	0.263445	0.247157	0.253415	19
Hungary	0.202113	0.202668	0.205188	0.213396	0.220673	0.212507	0.209424	25
Ireland	0.779541	0.717208	0.78259	0.847058	0.875149	1	0.833591	3
Italy	0.374026	0.379064	0.383043	0.385557	0.390419	0.37113	0.38054	12
Latvia	0.170188	0.174953	0.178433	0.180902	0.187374	0.187627	0.179913	29
Lithuania	0.254386	0.254284	0.260027	0.26276	0.271394	0.274327	0.262863	17
Luxembourg	0.907733	1	0.953501	0.912645	0.902938	1	0.946136	1
Malta	0.540779	0.578051	0.634388	0.677126	0.719591	0.590274	0.623368	5
Montenegro	0.190622	0.188594	0.186149	0.185058	0.182583	0.159122	0.182022	28
Netherlands	0.47828	0.482365	0.493949	0.502154	0.512899	0.508144	0.496299	7
North Macedonia	0.154051	0.153895	0.149805	0.151209	0.149234	0.14319	0.150231	30
Poland	0.288509	0.284577	0.287599	0.294267	0.304307	0.301336	0.293432	14
Portugal	0.242279	0.247046	0.249644	0.256523	0.265961	0.254371	0.252637	21
Romania	0.214076	0.216183	0.226356	0.23511	0.238044	0.231341	0.226852	22
Serbia	0.132869	0.134476	0.135569	0.140143	0.144158	0.14153	0.138124	31
Slovak Republic	0.27192	0.270458	0.268973	0.277124	0.28022	0.277099	0.274299	16

Slovenia	0.237792	0.242499	0.250217	0.259971	0.270774	0.267234	0.254748	18
Spain	0.341019	0.348426	0.349507	0.352917	0.361301	0.340037	0.348868	13
Sweden	0.826643	0.85283	0.89647	0.953424	1	1	0.921561	2

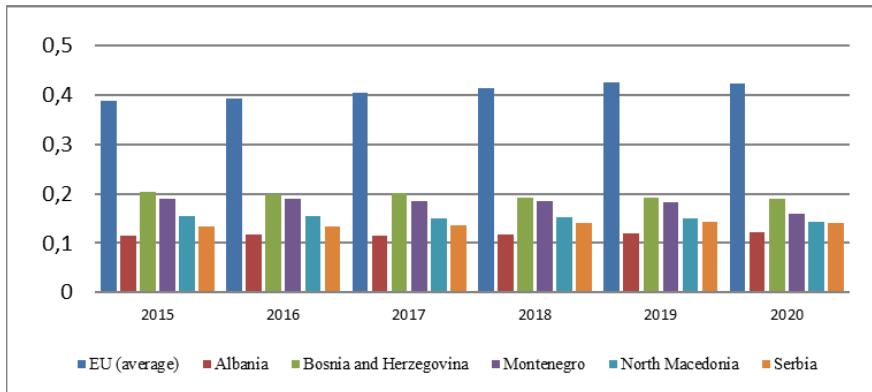Note: Authors' calculations using Stata/MP17 software

Figure 1. *Comparison of efficiency between Western Balkan countries and EU average*
Note: Authors' calculations using Microsoft Excell software

3.3. Dynamic assessment of GTFP using the ML index

The results from Table 5 reveal that the dynamic analysis led to similar conclusions. Specifically, Western Balkan countries experience a decline in GTFP (GTFP<1) for most of the years during the observed period. This decline is particularly noticeable for Bosnia and Herzegovina, where GTFP values exhibit a declining trend at both the beginning and the end of the period. Some countries, such as Ireland, France, Finland, Estonia, improve their GTFP position during the observed period, with the initial decline in GTFP transforming into an increase by the end of the period. On the contrary, countries such as Serbia and Montenegro worsen their positions, as the initial increase in GTFP transformed into a decline by the end of the period (see Figure 2).

Table 5. *Analysis of GTFP presented using the ML index (EU and Western Balkans, 2015-2020)*

Country/Year	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	Average	Rank
Albania	1.0108	0.9832	1.0071	1.0113	1.0142	1.00532	16
Austria	1.0040	0.9992	1.0188	0.9996	1.0001	1.00434	19
Belgium	1.0021	1.0034	0.9995	1.0058	0.9943	1.00102	28
Bosnia and Herzegovina	0.9913	0.9982	1.0004	1.0038	0.9926	0.99726	31
Bulgaria	1.0071	0.9981	1.0056	1.0089	0.9938	1.0027	23
Croatia	1.0030	1.0004	1.0145	1.0050	0.9940	1.00338	21
Cyprus	1.0032	1.0073	1.0165	1.0123	1.0045	1.00876	6
Czechia	1.0007	1.0048	1.0044	1.0094	1.0048	1.00482	18
Denmark	1.0062	1.0242	1.0062	1.0223	1.0000	1.01178	3
Estonia	0.9977	1.0091	1.0103	1.0418	1.0565	1.02308	1
Finland	0.9985	1.0227	0.9915	1.0123	1.0027	1.00554	15
France	0.9997	1.0076	1.0218	1.0170	1.0126	1.01174	4
Germany	1.0064	1.0148	1.0074	1.0121	0.9898	1.0061	14
Greece	1.0008	1.0036	1.0114	1.0173	1.0091	1.00844	8
Hungary	1.0003	0.9898	1.0085	1.0139	1.013	1.00276	22
Ireland	0.9296	1.0284	1.0299	0.9560	1.0625	1.00128	26
Italy	1.0088	1.0074	1.0063	1.0096	1.0071	1.00784	9
Latvia	1.0091	1.0073	0.9900	1.0107	1.0138	1.00618	13
Lithuania	1.0024	1.0079	1.0003	1.0077	1.0007	1.0038	20
Luxembourg	1.0000	0.9883	0.9873	0.9978	1.0271	1.0001	29
Malta	0.9879	1.0505	1.0244	1.0275	0.9339	1.00484	17
Montenegro	1.0125	0.9993	0.9949	1.0000	0.9868	0.9987	30
Netherlands	1.0061	1.0162	1.0132	1.0136	0.9944	1.0087	7
North Macedonia	1.0044	0.9955	1.0081	0.9919	1.0080	1.00158	25
Poland	0.9938	1.0388	1.0191	0.9687	0.9485	0.99378	32

Portugal	1.0101	0.9911	1.0221	1.0303	1.0094	1.0126	2
Romania	1.0070	1.0060	1.0066	1.0083	1.0058	1.00674	11
Serbia	1.0003	1.0003	1.0037	1.0026	0.9991	1.0012	27
Slovak Republic	0.9992	1.0006	1.0139	1.0095	0.9881	1.00226	24
Slovenia	0.9958	1.0053	1.0083	1.0116	1.0101	1.00622	12
Spain	1.0163	0.9921	1.0110	1.0239	1.0146	1.01158	5
Sweden	1.0060	1.0090	1.0112	1.0080	1.0000	1.00684	10

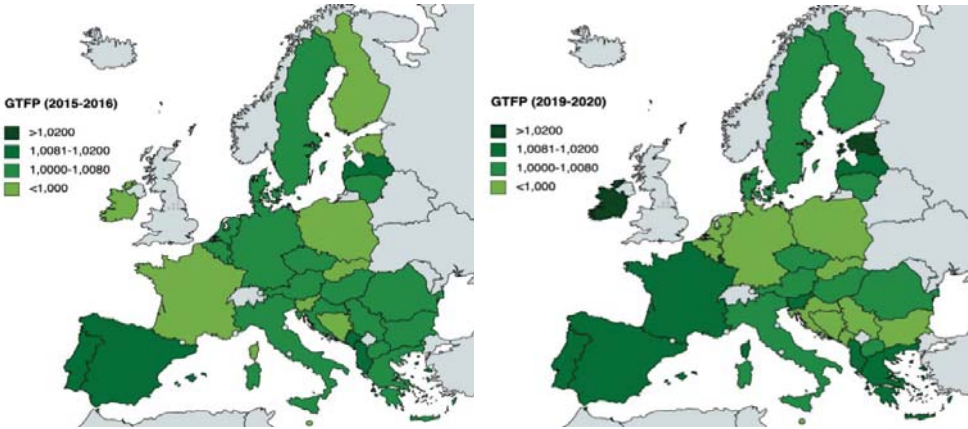Note: Authors' calculations using Stata/MP17 software

Figure 2. *Temporal comparison of GTFP (EU and Western Balkans, 2015/16 vs. 2019/20)*
Source: Authors' creation using MapChart software

By analyzing the decomposition of GTFP (Figure 3) for Western Balkan countries and the EU average, it can be observed that technological progress (GTECch) contributes more to the growth of GTFP compared to technological efficiency (GTEch).
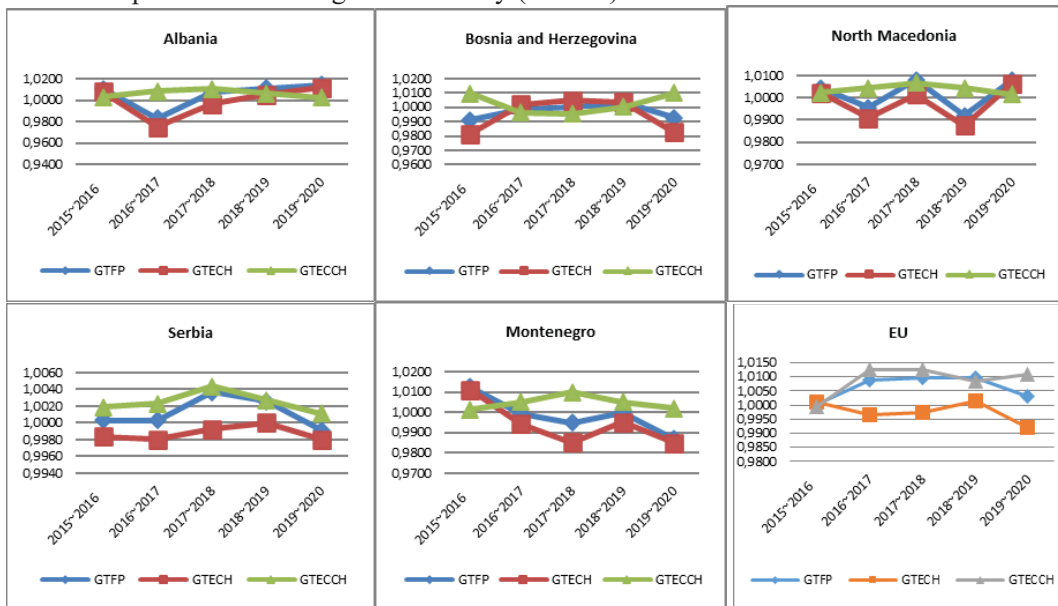

Figure 3. *Values of GTFP and their decomposition expressed by the ML index*
(EU average and Western Balkan countries, 2015-2020)

Note: Authors' calculations using Stata/MP17 software and Microsoft Excel software
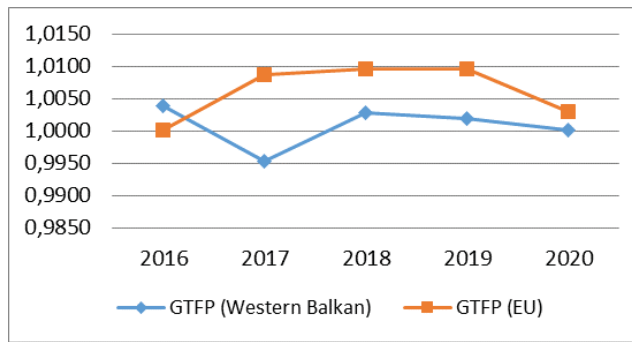
Figure 4. *Comparison of GTFP in EU and Western Balkans*
Note: Authors' calculations using Stata/MP17 software and Microsoft Excel software.

All of the above findings suggest that EU countries continuously experience GTFP growth during the observed period, with the exceptions in 2019 and 2020, whereas Western Balkan countries have some years of GTFP decline, such as 2016 and 2017 (see Figure 4). Consequently, there is a significant room for enhancing GTFP in both Western Balkan countries and the EU. Special attention should be paid to improving technological efficiency, but the importance of technological progress should not be underestimated. Achieving this requires investments in technologies and practices aligned with sustainable development goals. Increasing GTFP in Western Balkan countries can be achieved by minimizing harmful emissions, such as CO_2, which is a major environmental pollutant. This can be achieved by reducing coal consumption in electricity production and modernizing technology, which would have a dual impact on increasing GTFP. Barjaktarović-Rakočević, Rakić, and Joksimović (2022, p. 117) suggest that, following the example of EU countries, Western Balkan countries should transform towards market-based sustainable financing methods, primarily through the issuance of green bonds. Currently, green bonds are only available in Serbia through the placement of the National Bank of Serbia. This standpoint aligns with the results of the research, indicating that sustainable financing mechanisms have significantly contributed to the EU's GTFP lead over the Western Balkans. Therefore, by strengthening sustainable finance practices, especially through the greening of the financial system, it is possible to influence the increase in GTFP. These findings are consistent with those of Xu and Zhao (2023, p. 11204), who find that green financing has an indirect but positive impact on GTFP.

CONCLUSIONS AND RECOMMENDATIONS

This research provides insights into the current levels of GTFP achieved as a selected benchmark for sustainable development, as well as insights into the mechanisms through which finance can support GTFP growth. Traditional finance typically focuses solely on financial goals while sustainable finance encompasses multidimensional objectives, primarily based on ESG criteria. Using the SBM-DEA model and ML index, GTFP values are calculated for 27 EU countries and five Western Balkan countries during the period from 2015 to 2020. The empirical results indicate that when conducting a comparative analysis of GTFP for each individual Western Balkan country with the EU average, it becomes evident that Western Balkan countries are in a significantly disadvantaged position. Therefore, they must make special efforts to increase their GTFP, and this can be achieved through financing the transition to practices that support sustainable development factors. In Western Balkan countries, aside from the banking sector where green loans are primarily emphasized, there are also certain funds financed by international financial organizations and institutions, such as the European Bank for Reconstruction and Development, European Investment Bank, International Finance Corporation, and others. This differs from EU countries where predominantly market-based instruments are present, with a particular emphasis on the green bond market. Although this study addresses an important gap in the existing literature, it is necessary to highlight some recommendations for future research. Firstly, there is a need to develop a

comprehensive green finance index for both EU countries and Western Balkan countries, enabling the modeling the impact of green finance (as a part of sustainable finance) on GTFP. To enhance the methodology for GTFP calculating, future research could consider employing a global ML (GML) index. Secondly, it would be valuable to explore how various types of green financial instruments can effectively contribute to GTFP growth. Lastly, future research could expand GTFP analysis to the sectoral level, moving beyond the country or group of countries level.

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RELATIONSHIP MARKETING IN ARTS ORGANISATIONS, THE CASE OF CROATIAN NATIONAL THEATRE

ABSTRACT

This paper examined whether it makes sense to introduce a loyalty program in Croatia National Theatre in Split, Croatia. (HNK Split) and what benefits it should include for customers to deepen their relationship with the theatre. Its purpose is to popularize the theatre among a wider audience, using the loyalty card as a marketing tool. The paper includes the concept, methods of application and goals of marketing in culture and art. It explains the historical development, classification, and descriptions of different loyalty programs in theatres worldwide. The paper shows potential benefits of loyalty program of Croatian National Theatre in Split and how to apply this successful model to the theatre and, in addition to loyalty, also to increase ticket sales, and thus affect the revenue growth of the institution. The survey examined which elements of the loyalty card the visitors consider the most interesting and would encourage the loyalty the most. Respondents were subscribers of the official Facebook page and newsletter of the Croatian National Theatre Split and marketing managers of the theatre. It has been concluded that most of the respondents would like to become members of the loyalty program, and, as the most important elements of its loyalty program, point out discounts on tickets and free reservations. It implies that most of the marketing budget of HNK Split should be directed towards advertising on the web and social networks, for example, by cooperating with influencers (on Instagram/TikTok) to interest (potential) visitors. Moreover, videos "behind the scenes", interviews with artists from the Croatian National Theatre in Split and the like could be shared. The results and guidelines of this paper could be used to introduce or improve loyalty programs in the future, to develop and maintain a satisfied and loyal customer base.

Keywords: Customer Relationship Marketing, loyalty program, theatre, Croatia

JEL: M31, M38

1. INTRODUCTION

Nowadays, due to the more complex lifestyle of most people, there are more and more providers of various services on the market. Therefore, according to Skackauskiene and Vilkaite-Vaiton (2020), loyalty becomes an important state of customers that does not focus only on the consumer, but is also a significant indicator of business success. Various terms are found in the literature as the name for loyalty programs: reward programs, frequency reward programs, loyalty schemes, point cards, priority card, frequent flying programs and much more (Dorotic, 2010). Sharp and Sharp (1997) define loyalty programs as "structured marketing efforts that reward and encourage loyal behavior that benefits the company". The result of relationship marketing is consumer loyalty (Egan, 2008). Kim et al. (2016) emphasize the importance of identifying the factors that influence loyalty by managers and understanding the dimension of loyalty in order to create an effective marketing and customer relationship management strategy. Loyalty programs are often used as one of the main

techniques of customer relationship management to retain loyal customers and deepen the relationship between consumers and providers, by reconnecting with consumers who have started using the services of another supplier (Al Kurd et al., 2014). Consumers loyal to brands are less price sensitive and willing to pay higher prices (Krishnamurthi, Raj, 1991 taken from Anić et al., 2010). Gustavfsson (2005) believes that positive overall satisfaction strongly influences loyalty. This paper will examine whether and to what extent visitors to HNK Split are loyal to this institution, whether the introduction of a loyalty card would improve theatre attendance and to what extent, and what potential benefits a loyalty card would bring to theatre visitors and the general public. In addition to the primary goal, the research paper also has the goals to increase interest in theatre in a wider group of people; point out the importance of marketing in culture and the arts, with an emphasis on theatre; explore the application of loyalty programs in theatre around the world; identify improvements that could affect the increase in attendance at the events in Croatian National Theatre. In order to achieve the goal of this research paper, interview was conducted with the marketing manager, sales manager and PR/marketing assistant of the institution and the research of the theater audience was conducted through a questionnaire, in cooperation with the marketing department of the Croatian National Theatre.

2. CUSTOMER RELATIONSHIP MARKETING IN CULTURE AND ART

Art and the market have been considered mutually exclusive for centuries, however, modern practice shows that functional and effective cooperation between art production and marketing is not impossible, as evidenced by numerous examples of both top artistic and marketing products (Raduški, 2017). According to Cacovean (2015), artistic marketing (theatre, music, dance, visual art) is defined as the marketing of "heavy" products because of their role in educating audiences and passing on beliefs and values through generations through various cultural stimuli. However, according to Borić et al. (2016), marketing in culture and art identifies the supply and demand for products, services and cultural ideas in their specific market niches and sets specific measurable marketing goals to build long-term relationships with audiences". Lee (2005) states that romantic artists idealized art as an area where truth and ideal are explored, as art was seen as a way of restoring human values exhausted by commercialism and material progress of society, and even a viable way to approach the ideal of human perfection (Williams, 1982 - taken from Lee, 2005). Hughes and Steidl (1997) state that it all starts with the vision of an art organization - what the organization wants to be known for, the art form product to be developed and the audience that this product should attract Therefore, the theatre should adapt to the needs of its most frequent visitors, and use targeted marketing techniques and strategies to attract other members of the audience. Although the contribution is difficult to measure accurately, cultural and artistic institutions contribute significantly to the economic development and prosperity of society (Pavičić et al., 2006). In the British Provincial Theatre, Friends provide much-needed funding, audience, sponsorship, volunteering and support, and act as unpaid advocates for the theatre (Bussell and Forbes, 2006). By systematically managing the customer base, they can create, identify, satisfy and retain the most profitable customers (Burnett, 2001; Capizzi, Ferguson, 2005). Colbert (2010) believes that marketing has been excluded from the cultural sphere for a long time, because it has been linked to profit and trade. However, according to the same author, marketing is in fact a process of bringing companies and consumers closer, a tool in the service of achieving the mission of cultural and artistic organizations. In accordance with the theoretical knowledge, this paper will examine whether and to what extent visitors to HNK Split are loyal to this institution, whether the introduction of a loyalty card would improve theatre attendance and to what extent, and what potential benefits a loyalty card would bring to theatre visitors and the general public. According to Kolb (2005), most cultural and artistic organizations were founded in order to offer a cultural and artistic product on the market that had not been available to a wider audience until then. The same author states that the first task of the founders of such organizations is to find funds and develop relationships with the audience and only if the organization has successfully survived the initial

phase, other departments should be formed, including the marketing department - to ensure better recognition of the institution. According to Raduški (2017), art and the market have been considered mutually exclusive expressions for centuries, but nowadays this is changing, as evident by many examples of simultaneously successful artistic and marketing products. The same author states that the primary task of marketing in culture and art is to develop cultural habits through continuous contact with the audience, and not only sales.. The main goal of marketing in culture and art, according to Gaio et al. (2019), is to expand the public awareness of art, by communicating the value of the product to a wider audience. It assumes that an art organization can develop and maintain a mutually satisfying relationship with its consumers; even if it is not market-driven; on the contrary, it is offering customized services to its consumers. The goal of the organization is to increase the loyalty of existing consumers by building relationships, and not to constantly look for new audiences. American Airlines, often considered the first comprehensive loyalty program of the modern age, launched its Frequent Flier program in 1981, revolutionizing consumer loyalty and boasting over 50 million members in the AAdvantage program (McEachern, 2018). According to aa.com (2020)[3], AAdvantage is a program where consumers can earn miles (mileage) for each trip, whether via a flight from American Airlines or their partner companies. By registering online, they can earn extra miles, request missing miles, buy, transfer or donate miles, etc. They can also earn miles by using other services of American Airlines partners - from renting a car and staying in hotels, to lunches or using credit cards (aa.com, 2020)[4]. Later, companies with more than one brand in their portfolio, will adopt the so-called "loyalty aggregators", which reward points regardless of the brand they were originally earned from, and the accumulated points can then be exchanged for coupons to purchase the product of one of the brands (McEachern, 2018). With a marketing environment in which the winds of change are intense due to technological developments, CRM (Customer Relationship Management) based on modern technologies and the Internet has become an indispensable step to achieve the best response and build a superior customer experience among service organizations (Mosa, 2022). The advent of digital marketing has replaced traditional marketing and shed a great impact on the global economic paradigm (Nuseir, 2022).

3. HISTORY OF THE CROATIAN NATIONAL THATRE IN SPLIT

According to data available on the official website of HNK Split (2021)[5], the development of HNK Split from the beginning to the present day is described as follows: "HNK (Croatian National Theatre – HNK) is the central theatre and the most important theatre institution in Dalmatia. 120 years ago (in 1893), on the eve of the feast of St. Dujam, the newly built Municipal Theatre was officially opened in Split. A picturesque invitation-program was also printed. In 1922 the ensemble of the theatre has been founded. Today, the theatre houses busts of greats of Split and Croatian culture: Marko Marulić, Gaj Bulat, Ivo Tijardović, Josip Hatze, Josip Genda, Zdravka Krstulović and Boris Dvornik. [6] The theatre has been a member of the European Theatre Convention since 1999. Through many decades, the Croatian National Theatre in Split has preserved the cultural identity of the city with numerous theatre performances and concerts." A virtual walk through the theatre is possible via HNK Split website [7]. All virtual visitors have a 360° view of the theatre, with the possibility of choosing one of the following views: the front of the theatre, the lobby, the view from the stage, the view from the central lodge, the foyer and the theatre café. In the future, it would be good to provide a virtual assistant who would answer all (possible) questions of visitors and / or

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[3]American Airlines (2020): AAdvantage, available on: https://www.aa.com/i18n/aadvantage-program/elite-status/aadvantage-elite-status.jsp [15.12.2020]
[4]American Airlines (2020): AAdvantage, available on: https://www.aa.com/i18n/aadvantage-program/elite-status/aadvantage-elite-status.jsp [15.12.2020]
[5]HNK Split (2021), available on: https://www.hnk-split.hr/o-kazalistu/povijest [20.01.2021]
[6]Archive of the Croatian National Theatre Split (2021), available on:
http://hnkarhiva.sistemi.hr/extension/ez_hnkst/design/ez_hnkst/flash/walkthrough/teatar.html [01.02.2021]

guide visitors through a virtual tour of the theatre, pointing out some interesting features of each room and / or its purpose.

4. RESEARCH RESULTS

4.1. Description of the sample and interpretation of research results

In order to examine the overall satisfaction of the visitors of the Croatian National Theatre in Split and their attitude towards the introduction of the loyalty card and its elements, an empirical study was conducted. The research was conducted through a questionnaire, in cooperation with the marketing department of the Croatian National Theatre in Split, with the aim of collecting primary data. The *questionnaire was shared only with HNK Split newsletter subscribers and on the official Facebook page of the theatre*, in order to collect an appropriate sample of respondents, who themselves frequently attend theatre performances. It is important to note that the size of the sample is determined due to the specifics of the segment that was needed and willing to participate in the research (only people who follow the Facebook page and / or receive theatre newsletter). In addition, due to the epidemiological situation (COVID-19) the research could not be conducted in front of the theatre or before / after the performances, as originally planned. The study involved 84 respondents, of whom 79.8% were female and 20.2% male. It seems that men attend theatre performances to a much lesser extent than women, or that they were not willing to participate in the research as much.

The respondents are mostly between the ages of 36 and 45; 26 out of a total of 84; followed by the respondents aged 18 to 25 (24) and the respondents aged 26 to 35 (18 respondents). According to these results, it is concluded that the respondents are mostly younger to middle-aged. The majority of respondents (59.5 percent) have a bachelor's degree, followed by a master's degree (21.4 percent) and a high school diploma (17.9 percent). There is only one respondent with a basic education. The results of the research show that the respondents mostly go to the theatre once in 2 or 3 months or once a month, which is fine considering that theatre has a wide range of plays on its repertoire. Some respondents (23.8 percent) go to the theatre once a year and only a small percentage of the respondents go to the theatre once a week (6 percent) or once in 4 months or more (9 percent). Most of the respondents prefer drama (50 out of 84), followed by opera (19 out of 54) and ballet (15 out of 84) which is alright considering dramas make up most of theatre performances. The vast majority of respondents (as many as 84.5 percent) *visit several art forms*, while 15.5 percent of them visit only one art form, so theatre should continue offering three different art forms, because of public and because of main mission of culture and art. People who go to the theatre solely out of love for the arts make up the largest number of respondents (73 out of 84)) – very good intention, while the fewest number of respondents help the theatre either financially or voluntarily (only 2 out of 84 respondents) - here theatre should try to monetize loyalty program by offering some of the benefits only to members willing to pay for it – e.g. behind the scenes videos or interviews. 7.1% of respondents think that tickets are too expensive considering the quality of service, 13.1% of respondents think that the ticket price is slightly higher than the quality of service. 42.9% of respondents believe that the ticket price is fine with regards to the quality of service, 27.4% of respondents believe that the ratio of service quality and ticket price is very good. 9.5% of respondents think that the ratio of service quality and ticket price is excellent. It implies that the theatre should keep the existing price/quality ratio.

The amount of money that respondents spend per month on theatre visits is mostly up to 100 kn (63.1 percent of respondents), then from 101 to 200 kn (22.6 percent of respondents), 10.7 percent of respondents spend 201 to 350 kn, and only 3.6 percent of respondents spend more than 350 kn per month on theatre visits. 77.4 percent of respondents are members of some of the loyalty programs (for example, the ones provided by famous retail stores in Croatia such as DM, Konzum or Studenac), while 22.6 percent of them are not members of any loyalty program. Almost all

respondents (90.5 percent) consider loyalty programs a good way to encourage loyalty - great news, and only 9.5 percent of them believe that loyalty programs are not a good way to encourage loyalty. According to the survey, 83.3 percent of respondents are interested in *the introduction of the mobile application of HNK Split, where, in addition to the possibility of buying or booking tickets and rating the program, they could collect points by completing challenges*. Only 16.7 percent of respondents disagree with this idea. Given the mostly positive attitude of the respondents about the introduction of the HNK Split mobile application, which would serve as a loyalty program, its introduction would make it easier for the audience to go to the theatre. Within the application, they could regularly follow the theatre's repertoire, reserve or buy tickets, monitor the status of collected points and always have access to the information.

Starting from the problem and the goal of the research, and in accordance with theoretical knowledge, *four hypotheses have been set*, which were tested by setting a measurement scale with scores from 1 to 5. Score of 1, or "I do not agree with the statement", was considered the worst, while a score of 5, or "I completely agree with the statement", was considered the best. When testing the hypotheses, it was assumed that the arithmetic mean was greater than 3.5 with a marginal significance of 5%, so that the hypothesis could be accepted (declared as true), or, otherwise, declared false. The level of significance is in fact the level of risk, and its value of 5% means a 5% chance that there was a mistake (Medical Polytechnic of Zagreb, 2017). Score of 3 is intentionally not taken into account as a rough value, because it is assumed that respondents, if they are not sure whether or not they agree with a statement, most often choose a score (value) 3 as an answer to a question.

H1: *Theatre audiences are ready to become members of the loyalty program.*
Most respondents (44%) completely agree that if HNK Split introduces a loyalty program, they are ready to become a member of the program, while only 7,1% do not agree at all with that statement. Given that the arithmetic mean for the statement "If HNK Split introduces a loyalty program, I am ready to become a member of the program." according to research data is 3.8929 (with a standard deviation of 1.27078), which is greater than the assumed arithmetic mean of 3.5, a conclusion is reached on accepting the H1 hypothesis as valid.

H2: *The theatre audience emphasizes ticket discounts and the introduction of free reservations as the most important elements of the potential loyalty program of HNK Split.*
Starting from the H1 hypothesis, the goal is to determine which elements would encourage the audience to become members of the loyalty program of HNK Split the most. The author assumes that these are discounts on tickets, which could affect the number (frequency) of visits, and the introduction of the free ticket reservation, as it would ensure that loyalty card users are not left without the desired seats.

While defining H2 hypothesis, in addition to the H1 hypothesis about the readiness of theatre audience to become members of the loyalty program, it was assumed that the audience thinks the most important elements of the (potential) loyalty program are discounts on tickets and the introduction of free reservations. The analysis of the respondents' answers showed that the arithmetic mean (average) for the answer "discounts on tickets / premieres" and "discount when purchasing more tickets (e.g. after five purchased tickets, the sixth for free)" is 4.4286 and 4.2857, and for the answer "Introduction of free ticket reservation", the arithmetic mean (average) is 3.9254, which is ultimately higher than the assumed arithmetic mean of 3.5. The answers that the respondents rated the least important are "discount for a café at the Croatian National Theatre Split" (arithmetic mean = 3.1548 and SD = 1.28470), "priority pass for the wardrobe" (arithmetic mean = 3.1667 and SD = 1), 24990), and "joining a Facebook group (invitations-only) and accessing exclusive information (e.g. videos or events)" (arithmetic mean = 3.1905 and SD = 1.25608). Also, the answers "earlier news about upcoming productions" (arithmetic mean = 4.0952 and SD = 1.12602), "full refund if the visitors can't come to the show for any reason" have a very high value of the arithmetic mean (arithmetic mean = 4.0952 and SD = 1.19858), and "birthday discount"

(arithmetic mean = 4.2143 and SD = 1.05364). The hypothesis is accepted as valid (true) based on the value of the arithmetic mean for the answers "discounts on tickets / premieres" and "discount on more purchased tickets (e.g. after five tickets purchased, the sixth gratis)" and "introduction of free ticket reservations" which is statistically significantly higher than the expected arithmetic mean values of 3.5.

Table 1: Arithmetic mean, median, mode and standard deviation of each benefit of the (potential) loyalty program of HNK Split

Please indicate the degree of importance of each benefit of the (potential) loyalty program of HNK Split:							
	N	Average	Median	Mod	Min	Max	SD
Discounts on tickets / premieres	84	4.4286	5.00	5.00	1.00	5.00	0.82558
Discount on purchasing more tickets (e.g. after five purchased tickets, the sixth for free)	84	4.2857	5.00	5.00	1.00	5.00	0.95149
Free ticket reservation	84	3.9524	4.00	5.00	1.00	5.00	1.15022
Earlier news on upcoming productions	84	4.0952	4.00	5.00	1.00	5.00	1.12602
Selection of priority seats (except at premieres)	84	3.9405	4.00	4.00	1.00	5.00	1.07939
Full refund if the visitors can't come to the show for any reason	84	4.0952	5.00	5.00	1.00	5.00	1.19858
Birthday discount	84	4.2143	5.00	5.00	1.00	5.00	1.05364
Free parking	84	3.6310	4.00	5.00	1.00	5.00	1.34236
Discount for café at HNK Split	84	3.1548	3.00	3.00	1.00	5.00	1.28470
Priority pass for the wardrobe	84	3.1667	3.00	3.00	1.00	5.00	1.24990
Ability to join a Facebook group (invitations-only) and access exclusive information (e.g. videos or events)	84	3.1905	3.00	3.00	1.00	5.00	1.25608
Invitation to exclusive events in the theatre (e.g. Christmas party, HNK Split Awards)	84	3.5476	4.00	4.00	1.00	5.00	1,21640

Source: Prepared by the author

H3: *The introduction of a loyalty card in HNK Split would have a positive impact on theatre attendance.*

In order to test the validity of the above hypothesis H3, the respondents' assessments for the answers to the following statements were taken into account:
- I consider myself a frequent and faithful visitor of the theatre.
- If HNK Split introduced a loyalty program, I would go to the theatre more often.
- As a loyalty card holder, HNK Split would be my first choice of leisure.
- As a loyalty card holder, I would go to the theatre more often so that I could collect more points.

Table 2: Arithmetic mean, median, mode and standard deviation for statements related to the H3 hypothesis

		I consider myself a frequent and faithful visitor of the theatre.	If HNK Split introduced a loyalty program, I would go to the theatre more often.	As a loyalty card holder, HNK Split would be my first choice of leisure.	As a loyalty card holder, I would go to the theatre more often so that I could collect more points.
N	Valid	84	84	84	84
	Missing	0	0	0	0
Mean		3.4167	3.4881	3.1905	3.2381
Median		4.0000	4.0000	3.0000	3.0000
Std. Deviation		4,00	4,00	3,00	3,00
Minimum		1,28202	1,28470	1,29388	1,31368
Maximum		1,00	1,00	1,00	1,00
Total		5,00	5,00	5,00	5,00

Source Prepared by the author

The arithmetic mean for the statement "I consider myself a frequent and faithful visitor to the theatre" is 3.4167, for the statement "If HNK Split introduced a loyalty program I would go to the theatre more often." 3.4881, the statement "As a loyalty card holder, HNK Split would was my first choice of leisure. " is 3.1905 and for the statement "As a loyalty card holder, I would go to the theatre more often so that I could collect more points on the card." is 3.2381. Considering that the arithmetic mean values for the statements related to the H3 hypothesis are statistically slightly less than the assumed value of 3.5, hypothesis H3 is considered untrue/invalid, or it is concluded that the introduction of a loyalty card in the HNK Split offer would not have statistically significant a positive impact on theatre attendance. However, the values of the arithmetic mean for the statements related to the H3 hypothesis are not much less than the assumed value of 3.5, so it can be concluded that the introduction of a loyalty card in the offer of HNK Split would have a neutral impact on theatre attendance or it would not contribute too much to the theatre attendance, but would not have a negative impact on it. In this case, it could be concluded that instead of a loyalty card, another form of consumer relationship management should be introduced, such as a mobile application, as 83.3% of respondents are interested in the introduction of a mobile application.

H4: *Audiences learn about the latest performances through the web and social networks, and less from the classic ways of advertising (TV, radio, newspapers).*
The answers of the respondents (audience) show that as many as 70% of the respondents found out about the last show they saw via internet or social networks, while only 3.6% of the respondents (or four of them) found it out in the local newspaper. None of the respondents found out about the last-seen show on TV, radio or billboard. Therefore, it can be concluded that hypothesis H4 is accepted as true. It could be that HNK Split already spends less budget on the traditional means of advertising such as local newspaper, TV or radio, therefore, the respondents have seen the advertisements only via internet or social media advertising.

4.2. Interview with marketing representatives of HNK Split

To gather more relevant information and to make a conclusion whether it makes sense to introduce a loyalty program at HNK Split, an interview was conducted with the marketing manager, sales manager and PR/marketing assistant of the institution. During the conversation, important information has been learned about the current relationship and the ways of maintaining the loyalty of the audience by different ways of promotion. HNK Split conducts the promotion via Facebook and Instagram pages, posters on the most frequently visited places in the city, occasional stands at colleges and schools, advertisements on the radio and word of mouth. So far, they have mostly reached the audience with whom they still maintain relations, through newsletters, extensions of performances, cooperation with educational institutions etc. It is very important for them to keep a permanent audience, as it requires less engagement, or, in other words, less time and money. HNK

Split nurtures relationships with the existing fund of subscribers, about 2,000 of them, and subscription is in a way its form of consumer relationship management. They are a classic, not a commercial theatre, aimed at a permanent audience and satisfied with the number of current subscribers. Considering all of that, they have not considered introducing additional benefits for loyal subscribers, as that would require additional funding, and the theatre budget is limited. They believe that maintaining positive relationships with subscribers is very important and that it is much easier to keep existing subscribers than to attract new ones, so they aim to maintain relationships with existing subscribers (for example, promotion always in the same schools and universities). HNK Split sends a newsletter to its subscribers to inform them about upcoming productions and to encourage them to buy tickets on time (if the theatre play in that particular newsletter is not included in their current subscription). Also, they have the option of "Open subscription", so they get 10 coupons for 200kn they can use when buying a ticket for any show (except premieres) at a price of 10 kn. This option also encourages consumers to go to the theatre more often and is a kind of loyalty program that this theatre is using. Among the advantages mentioned in the survey questionnaire, they especially liked the discounts on tickets, because they think that this is the easiest way to reach existing, but also new audience (which might come to the theatre because of recommendation of friends who are already subscribers). Those people, in charge of sales and marketing at the HNK in Split, have a positive attitude towards loyalty programs such as those implemented in the DM, and are members of the said loyalty program. They agree that the loyalty programs offer tangible benefits to its members (discounts on certain items and the 2 + 1 option for free for some items), but such, in their opinion, is more difficult to apply in the nonprofit and public sector. So far, they have not considered introducing a loyalty card, but after the interview, which outlined the additional benefits offered by the loyalty program, *it was concluded that a loyalty card could be introduced in the future*.

5. CONCLUSION

Nowadays, consumers have more and more options to choose from different service providers, and as a form of entertainment, in addition to theatre, there are also cinemas, gyms, fitness centers, disco clubs and similar facilities. Consumers usually create their own behavior patterns and ways of spending their free time. Therefore, in order to attract consumers to use their service more than once, various companies and institutions have developed their own loyalty programs. There are several types of loyalty programs, which are discussed in the theoretical part of the paper, and if different types of loyalty programs are combined, the effect on consumer loyalty is generally stronger. For this reason, it was decided to examine the attitudes of consumers about the introduction of a loyalty card in the Croatian National Theatre. The research also provided insight into the importance of each benefit (potential) of the HNK Split loyalty program: for example, a discount on ticket reservations. It was also investigated whether the respondents are interested in the introduction of mobile application of HNK Split, through which, in addition to the possibility of buying or booking tickets, they could collect points by completing the challenges. Today, most institutions, that provide direct and / or indirect services to consumers, have their own mobile application, which provides consumers 24-hour access to their loyalty card status, interesting challenges (such as answering questions about theatre and / or playing games) and easier booking, purchase and exchange / refund of purchased tickets. Empirical research determined the attitudes of consumers; subscribers and recipients of the HNK Split newsletter, on the introduction of loyalty programs in this institution, and also determined the acceptance or rejection of the set research hypotheses. With hypothesis H1, it was determined that if HNK Split introduces a loyalty program, most respondents are ready to become a member of the program. Hypothesis H2 found that the most important elements of the potential loyalty program of HNK Split are discounts on tickets / premieres, discount on purchasing more tickets (e.g. after five purchased tickets, the sixth for free), birthday discount, earlier news on upcoming productions, overall refund for tickets if you can't

come to the show for any reason and the possibility of a free reservation. H3 hypothesis showed that the introduction of a loyalty card in the offer of HNK Split would not have a significant impact on theatre attendance. Hypothesis H4 showed that as many as 70% of respondents found out about the last play they saw via the web or social networks, while only 3.6% of respondents found out about the last play in local newspapers. None of the respondents found out about the show they have seen the last time they visited HNK Split on TV, radio or billboard. It is important to note that the size of the sample (which is rather small) is determined due to the specifics of the segment that was needed and willing to participate in the research (only people who follow the Facebook page and / or receive theatre newsletter), so only the people who frequently attend theatre performances. In addition, due to the epidemiological situation (COVID-19) the research could not be conducted in front of the theatre or before / after the performances, as originally planned. Therefore, an interview with marketing representative of HNK Split was conducted, where, among other things, was learned that they have a positive opinion on loyalty programs in general, as well as, that they think that loyalty program in theatre should be introduced sometime in the future. As most respondents are ready to become a member of the program, especially if it includes ticket discounts and the introduction of free reservations, HNK Split should definitely think about introduction of the loyalty program. Also, in the future, most of the marketing budget of HNK Split should be directed towards advertising via the web and social networks, as the easiest and most efficient way to reach the audience nowadays. For example, towards cooperation with some of the well-known influencers and / or by opening an account on TikTok and thus get closer to (potential) visitors. Also, HNK Split needs to increase spending on advertising on Facebook and Instagram, and thus share videos behind the scenes, short interviews with artists from the Croatian National Theatre in Split. Such content could be shared through the TikTok app, which primarily targets the younger population. It is assumed that this way of increasing loyalty program would keep the pace with today's times, especially since according to research, theatre visitors are younger to middle-aged. For the most loyal consumers (e.g. those who've had the subscription for 5 years or more) sending thank-you notes and additional discounts such as next 5 tickets for free, would be a nice reward for their loyalty. HNK Split has a satisfied and loyal consumer base at the moment, and with the gradual introduction of loyalty programs, appropriate and timely advertising and mobile application development, this consumer base could significantly increase and ensure prosperous business in the years to come.

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THE INFLUENCE OF THE GUERRILLA MARKETING IN PROMOTIONAL STRATEGY ON THE SUCCESS OF THE COMPANY'S BUSINESS

Abstract

Guerrilla marketing as a specific way of promoting and communicating with consumers represents a modern and different way of promotion, which is particularly suitable for smaller companies precisely because of lower costs and applicable in the field of tourism, especially if we are talking about the concept of sustainable tourism. In essence, this concept of guerrilla marketing refers to an innovative marketing strategy that focuses on creativity and unconventional methods in order to attract the attention of potential consumers in an unusual and favorable way.

The main goal and purpose of the research is to point out the advantages of applying this specific marketing strategy and to investigate the degree of application of this concept on the domestic market. The problems that we are faced can be divided into several segments and the most recognizable are: low representation and familiarity of domestic companies with this concept within marketing, and unfamiliarity with the advantages that this type of promotion brings. The main goal of this paper is to show the concept of guerrilla marketing and familiarity with it, and how guerrilla marketing affects the business of a company.

Looking at the issue of the research itself, the main goal of the work is to research and the impact of guerrilla marketing on the success of the company's operations. Accordingly, the primary hypothesis of the work is as follows: Familiarity with the concept of guerrilla marketing affects its application in the company's promotional activities; Employed persons have a more positive attitude towards the application of guerilla marketing on the domestic market than unemployed persons.

The results of this research can contribute to the realization of the advantages of the guerilla marketing strategy and its greater application as part of the promotional strategy, especially among domestic small businesses in the future.

Keywords: guerrilla marketing, promotional strategy

JEL: M30, M31, M37

1. INTRODUCTION

The concept of guerrilla marketing is still insufficiently researched and applied by domestic companies, both manufacturing and service ones. There are numerous advantages brought by the application of guerrilla marketing as part of a promotional strategy. There are also so many opportunities to improve the promotional strategy using guerilla marketing, especially in the field of tourism, where the degree of representation of this form of promotion is extremely low.

The problems we face can be divided into several segments, the most recognizable are: low representation and familiarity of domestic companies with this concept in marketing, lack of knowledge of the advantages that this type of promotion brings, as well as low interest of domestic companies in learning about new marketing concepts. The aim of the paper is to investigate the familiarity with this form of promotion, but also to point out the advantages of its application on the domestic market, and to connect it with the results and success of the company's operations.

2. THEORETICAL FRAMEWORK

Marketing is a dynamic and innovative category that changes quickly in accordance with the environment and technological development. The internet has completely changed the traditional marketing strategies that were used earlier. The focus is on digital marketing, creativity and differentiation and innovation in relation to the increasing competition. Guerrilla marketing in our region is a relatively new concept and the possibilities of application have not been sufficiently explored on the domestic market. The special advantages of this way of promotion are reflected in lower costs and a high degree of creativity and innovation, which is especially suitable for small and medium-sized companies. In the field of tourism, there are numerous opportunities to promote and attract the attention of potential consumers precisely by applying this unusual and favorable way of promotion

Guerrilla marketing has evolved over time from a peculiar and eccentric type of marketing into a concise marketing direction that has been adopted by both small and large companies around the world for two simple reasons: because it simplifies tasks that seem impossible, and because it succeeds every time, if done right. way. Guerrilla marketing works consistently and gradually, while there are rare cases in which results are achieved immediately. Marketing is simply the art of influencing a change in people's attitudes, it is a way of getting them to accept our vision and to do as we tell them to do for their benefit in any way. Ultimately, guerilla marketing is the realization that details affect the strength of our brand, the shopping experience with us, as well as the size of the smile on our faces when we observe the realized financial gain (Levinson & Levinson 2011, p.3).

During theoretical research from numerous sources, it is possible to see how business and sales activities that are known today under the name of guerrilla or guerrilla marketing are actually known and represented from the earliest human civilizations until today. On the other hand, exactly those activities were not specified under the concept of guerrilla marketing until the 1980s, when the scientist Jay Levinson in his first scientific work then faithfully presented and presented to the world a new marketing direction - guerrilla marketing. At its core, guerrilla marketing is an innovative, creative and unusual approach to promoting and attracting attention. According to Levin (2002, p.2), the concept of guerrilla marketing takes the idea of urban warfare and is out there in the jungle, as he calls the market. He states that the business jungle is a place where a smart and well-equipped warrior can quietly, and sometimes not so quietly, build a bridgehead and go into a victorious battle, sometimes into a war, completely alone.

According to this author, we learn that "he discovered the concept of guerrilla marketing during his internship in the US military in 1957 as a counterintelligence analyst. It was this job, in which he had to describe observations from research in the most concise way, that helped him start his career in marketing and copywriting, where, thanks to his conciseness, he managed to revive old advertisements and breathe new life into them in media spaces. At first, the collaborations mainly related to companies that were world-renowned, but also with almost unlimited budgets for the development of marketing campaigns, and when he became independent, he got to know smaller companies that had incredible marketing ideas, but also extremely limited budgets for their implementation. These smaller companies had only one attempt to succeed in their ideas where they could not make a mistake, otherwise their existence would be called into question.

Observing the characteristics of the students, he realized that their goals were very similar to the guerilla way of warfare, that is, their desires were conventional, such as achieving financial

independence and freedom from stress, and in order to achieve these desires, it was necessary to invent unfamiliar methods to achieve the goals. It is precisely for this reason that the term guerrilla or guerrilla marketing was developed. (Levinson & Levinson 2011, pp. 18-23). Through guerilla marketing, businesses aim at forming a marketing management that is dynamic, sensitive to customer needs and that is able to adapt to changes easily (Aytekin, Nardali, 2010, p.281). Guerilla marketing is a tool that allows SME's to demoralize their rivals with small, periodical and surprising attacks, requires swift action and utilizes creativity and imagination (Tekk, 1999, p.902). Hutter and Hoffman (2011, p 1-16) proposed a classification of instruments according to effects of guerrilla marketing:

• Surprise effect (ambient marketing and sensation marketing)

• Diffusion effect (viral marketing, buzz marketing and guerrilla PR)

• Low cost effect (ambush marketing).

The main goal is to inform consumers about the product or service and surprise them in a fun, completely unusual, original and specific way. Guerrilla marketing is most often realized in quite unusual places where there are high frequencies of potential consumers and where it is not expected (Nanic, 2020, p.114). Guerrilla marketing simplifies complex concepts and explains how entrepreneurs can use marketing to achieve maximum profit based on minimum investment (Levinson J.C, Levinson, J. and Levinson, A, 2008, p.30). Nufer (2013, p-1-6) lists some of the characteristics of guerrilla marketing: 'unconventional; surprising original/creative; cheeky /provocative; cost-efficient / effective; flexible unusual/atypical; funny/witty; spectacular contagious.

As already mentioned in the previous section, the concept of guerrilla marketing was primarily designed for people and companies who had exceptional entrepreneurial ideas as well as ambitions for success, however, due to high budget constraints, they had to approach unconventional methods, which is exactly why guerrilla marketing has become absolute hit on the market. According to Levinson and Levinson (2011, p. 24-32), it is considered that guerrilla marketing as a concept bases its success on some ten general reasons, the most basic of which is profitability. We can divide those reasons into: Simplicity and easy way of use, If implemented in the right way, success is almost guaranteed; In its very name, it arouses the desire to experiment; It is compatible with smaller companies and allows them to grow and develop quickly; It can be afforded regardless of budget constraints; It is adaptable to new forms of marketing; Eliminates the most stressful activities from the marketing process; Ideal for the modern Internet environment; It is suitable for both large and small companies; It is profitable for all companies on a global scale.

We can say that the fundamental feature of guerrilla marketing, which conquered the mass population, was that it enabled, with proper implementation, even smaller companies to beat the big companies in certain segments, that is, to undermine their previously established position on the market. Guerrilla marketing today is vastly different from when this concept originated, as it is heavily dependent and connected to digital advertising, especially through social media.

Ethics is also linked to the success of guerrilla advertising. The ultimate goal of guerrilla advertising is to increase customer awareness and interest in the product itself and its associated brand. According to Nathwani and Bhayana (2013, 439-440), public dissatisfaction can often lead to a short-term as well as a long-term reduction in the effects of advertising. At the same time, the negative attitude towards the company's ads also affects future advertising campaigns. Some of the examples of ethical problems that these authors highlight are content and intent, false and misleading advertising, misuse of information, and brutality.

According to Garrian and Margolis (2008, p.16) gurrilla marketing is a shape-shifting form of marketing that takes a brands message and presents it to the desired consumers in a way that is personally engaging and totally unexpected. The term of guerrilla conjures imagery of bearded revolutionaries and makeshift armies. The tactics follow a similar basic plan of attack is:

• Identify your target (audience)

• Strategize where they are and how you can make the most effective impression

• Hit them in a way that is completely unexpected and impactful

Socially responsible marketing is woven through the use of guerilla marketing as one of the most favorable promotional strategies today. We often see examples in which consumers express their dissatisfaction with companies that are not socially responsible by boycotting the purchase of their products or services. Today's consumers are more demanding than have ever been. Of course, it is not enough to create a single campaign that focuses on socially responsible business, but it is necessary to operate on the principles of social responsibility.

The results of the research conducted on 6000 consumers in 10 countries around the world are as follows (Levinson and Horowitz, 2010.p.11):

• 68% of consumers would remain loyal to a brand during a recession if they believe that brand provides positive social effects;

• 71% of consumers would donate their time or money to good causes regardless of the recession;

• 42% would choose a socially committed brand over design, innovation and loyalty, if price and quality were equal between the products;

• 52% would recommend to others a brand that supports positive social activities over a brand that does not, while 54% of consumers would also promote a product for charitable purposes;

• 87% of consumers feel an obligation to contribute to the improvement of the social and environmental condition, while 83% of them would change their consumption habits to help create a better global condition;

• 76% of consumers prefer to buy from brands that donate funds to charity.

According to Levinson and McLaughin (2005, 33-35), the probability of achieving the set goals largely depends on their simplicity. Just a few well-placed goals can take our endeavor further than a whole series of worse goals. These goals may relate to the development of new business directions for existing clients, market visibility or simply professional advancement. Also, over time it is necessary to review the set goals in order to evaluate, test and modify them as necessary.

3. RESEARCH METHODOLOGY

Empirical research was conducted using a structured questionnaire. The survey questionnaire was conducted electronically, that is, through social networks, on a convenient sample of respondents. Therefore, we can state this information as a certain limitation in the research, since we limited the respondents to well-known members of social networks. Also, as a visible limitation of the work, it is necessary to state that the survey questionnaire was conducted exclusively on the domestic population, and it is recommended for future research that the attitudes of the population from the countries of the region about the application of guerrilla marketing in their domestic markets and in relation to the world the market. The research was conducted on a sample of a total of 103 respondents (n=103).

The analysis of the results of the survey, which will be discussed in more detail later in the paper, was carried out with the help of the SPSS program for statistical data processing, where statistical techniques and methods such as: descriptive analysis, factor analysis, T-test analysis, ANOVA analysis were used in the analysis. and univariate analysis or better known as two-way ANOVA analysis.

4. RESULTS AND DISCUSSION

For the purposes of the research part of the work, as mentioned earlier, a survey was conducted with the aim of obtaining primary data from the domain of familiarity with the application and advantages of guerrilla marketing. As the first part of the research, below we list the first step of the statistical processing of the obtained research results, which is a descriptive analysis.

In the introductory part, we will analyze the structure of the research sample.

- ✓ Out of a total of 103 respondents, 66 respondents were female, i.e. a total of 64.1% of the respondents; while 37 respondents were men with a total of 35.9% of the total number of respondents.
- ✓ Furthermore, the questionnaire tried to examine the age structure of the respondents. Most respondents in the age range of 18-24 participated in the survey, which make up a total of 71.8% of respondents. As a reason for such an uneven representation of the age structure, we can cite the very method of conducting the survey electronically, that is, through social networks.
- ✓ A more even distribution regarding the structure of the respondents' work status is noticeable, where the majority of respondents are students (42.7%), employed persons (27.2%) and unemployed persons (30.1%).
- ✓ The analysis of the educational structure of the survey participants indicates the following ratio: respondents with secondary vocational education (48.5%), higher and higher vocational education (30.1%), and master's and doctoral students (13.6%), as well as respondents who have completed only elementary school (7.8%).

The last question from this segment of the survey sought to determine how familiar the respondents themselves were with the term guerrilla marketing before further questions, where we can see that the majority of respondents were not previously familiar with guerrilla marketing, as evidenced by the data according to which 67% of the respondents had never previously were familiar with the concept of guerilla marketing, while in a smaller percentage, 33% of respondents declared that they were familiar with the same concept.

4.1. Factor analysis of the results

After the descriptive analysis of the data, the need for grouping part of the variables from the survey questionnaire was highlighted for more efficient and effective implementation of the tests and analysis that come in the continuation of the work. It should be emphasized that these are the results marked from C1 to C11, which are explained in more detail in the appendix of the paper itself, with the aim of grouping them into factors of familiarity with guerrilla marketing on the domestic and global market.

Table 1.: Results of KMO and Bartlett's test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.922
Bartlett's Test of Sphericity	Approx. Chi-Square	1322.889
	df	45
	Sig.	.000

Source: Author

Before conducting the factor analysis itself, the prerequisites for conducting it on the variables were examined, of which the KMO and Bartlett's tests are shown above. Speaking of the KMO test, as a rule, the following evaluation scale applies: "about 0.90 - excellent; 0.80 – very good; about 0.70 – good; 0.60 – mediocre; around 0.50 – bad; lower than 0.50 - unacceptable." According to the obtained results, we see that in this particular case the value of the KMO test for variables from C1 to C11 is 0.922, where we can state that there is an excellent justification for conducting the factor analysis according to the KMO test.

Furthermore, the following conducted Bartlett's test of sphericity shows that there is statistical significance for the implementation of the factor analysis on the variables (p=0.001), with 45 degrees of freedom and the average value of the Chi square test of 1322,889.

Table 2: Results of factor extraction and rotation
Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.420	74.204	74.204	7.265	72.648	72.648	6.988
2	1.248	12.485	86.688	1.065	10.651	83.299	4.727
3	.424	4.239	90.927				
4	.214	2.136	93.063				
5	.175	1.752	94.815				
6	.136	1.358	96.173				
7	.131	1.315	97.488				
8	.112	1.118	98.605				
9	.087	.867	99.473				
10	.053	.527	100.000				

Extraction Method: Principal Axis Factoring.
 a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.
Source: Authors

In the tabular presentation of the explanation of the total variance, the rule was used, whereby only those factors that meet the following conditions are significant [Hair, Anderson, Tatham, Black (1998), p.104]:
• their eigenvalues must be greater than one,
• percentage of total variance greater than or equal to 0.60 (in social research),
• the significance of the factor coefficient greater than or equal to 0.50.
According to the presented tabular results, but also the scientific criteria for the evaluation and recognition of the obtained factors, we can establish that the existence of two factors, which in total explain 83.299% of the variance, and their eigenvalue exceeds the value of 1. Also, for the purposes of the work, the Principal Axis was performed Factoring extraction method, paired with Direct Oblimin rotation method.

Table 3.: Result of factor matrix of variables
Pattern Matrix[a]

	Factor 1	2
C1	.997	
C2	.968	
C3	.964	
C4	.952	
C5	.851	
C6	.804	
C7	.774	

C9		.948
C10		.903
C11		.591

Extraction Method: Principal Axis Factoring.
Rotation Method: Oblimin with Kaiser Normalization.
Source: Authors

By a more detailed review of the factor matrix, which is made up of factor coefficients for each of the mentioned variables, we can determine that variables from C1 to C7 make up the first factor with extremely significant coefficient values from 0.997 for the first variable C1 to 0.774 for the last variable C7.

Speaking of the second factor that has been statistically proven, we can say that it is made up of three variables marked from C9 to C11, where the existence of significant coefficient values for variables from 0.948 for variable C9 to 0.591 coefficient for variable C11 was also determined.

Also, when creating the factor analysis, the option of excluding coefficient values that have a lower factor loading than 0.3 was used. On the other hand, during the analysis, variable C8 was found to have factor loadings above the minimum threshold of 0.3 for both categories of factors, according to which, in agreement with the opinions of individual scientists in the field of statistics, it was eliminated from factor analysis processing

4.2. ANOVA analysis

The fourth subsection of the empirical part of the paper refers to the analysis of ANOVA testing on variables from descriptive analysis with three or more answer categories. Specifically speaking, we will try to examine the impact of the respondents' age, education and work structure on the results of their attitudes in the continuation of the survey.

Table 4.: Levin's homogeneity test no. 1
Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Guerrilla marketing is extremely important strategy business	Based on Mean	.299	3	99	.826
	Based on Median	.798	3	99	.498
	Based on Med. with adj. df	.798	3	85.654	.499
	Based on trimmed mean	.436	3	99	.728
What is your level interests for guerilla application marketing in promotional activities?	Based on Mean	3.009	3	99	.034
	Based on Median	1.589	3	99	.197
	Based on Med.with adj. df	1.589	3	89.243	.198
	Based on trimmed mean	2.826	3	99	.043
How much do you think that guerrilla*s marketing affects the purchase decision?	Based on Mean	1.256	3	99	.294
	Based on Median	.853	3	99	.468
	Based on Med. with adj. df	.853	3	84.605	.469
	Based on trimmed mean	1.083	3	99	.360
How high-quality you consider products that guerrillas are promoted	Based on Mean	1.331	3	99	.269
	Based on Median	1.242	3	99	.299
	Based on Med. with adj. df	1.242	3	97.433	.299

marketing?	Based on trimmed mean	1.459	3	99	.230
Local market	Based on Mean	7.730	3	99	.000
	Based on Median	7.267	3	99	.000
	Based on Med. with adj. df	7.267	3	87.815	.000
	Based on trimmed mean	7.659	3	99	.000
World market	Based on Mean	.653	3	99	.583
	Based on Median	.332	3	99	.802
	Based on Med. with adj. df	.332	3	96.146	.802
	Based on trimmed mean	.552	3	99	.648

The next categorical variable whose influence we measured on attitudes from the survey is the work status of the respondents. According to Levin's test of homogeneity of variances, we can conclude that there is a statistically significant influence of work status on the interest in the use of guerrilla marketing in promotional activities (p = 0.034), as well as on attitudes about the use of guerrilla marketing on the domestic market (p = 0.037).

6. CONCLUSION

Dealing with the study of the concept of guerrilla marketing from both the theoretical and empirical aspects in this work, we can easily note that it is an innovative marketing concept that was conceived in the 80s of the last century in the USA. Over time, the eponymous marketing concept spread globally as a kind of innovation in a gloomy marketing environment full of already seen ads, advertising campaigns, and other types of promotional activities. It is precisely for this reason that the curiosity arises to what extent the guerrilla marketing concept is recognized on the domestic BiH market and what is the attitude of domestic companies about it?

In the last part of the empirical research, special emphasis is placed on the comparison of views on the success of the application of guerrilla marketing on the domestic market and on the world or foreign market. Although it was previously statistically proven that gender differences do not contribute to significant differences in the respondents' attitudes, it is nevertheless noticeable that the female part of the respondents is more optimistic about the application of guerrilla marketing on the domestic market, and unlike men, they do not believe that there is an insurmountable difference in the application of guerrilla marketing between these two market categories.

Furthermore, it is noticeable that all the respondents in the series of responses presented in the questionnaire itself give priority to the world market compared to the domestic market, following the following analogy: global or international companies and individuals are more familiar with the concept of guerrilla marketing, they are well aware of its advantages and disadvantages that come with with it, and because of that they apply it more often, but also in a more adequate way. In continuation of what was said, more frequent application leads to more frequent positive results in business, which are caused by guerilla marketing campaigns, and since these are economically richer markets than the domestic one, the results themselves are materially more pronounced.

Summarizing the previous two conclusions, we can present the current state of the domestic market, where the residents themselves are insufficiently educated about marketing and the guerrilla concept in order to see its potential. We believe that the education and training of the current and potential workforce is the key to the flourishing of guerrilla marketing on the domestic market, which should especially start with the youngest workforce population. Knowing that theory and practical knowledge are often two different concepts, it is necessary to educate existing employers and entrepreneurs to try themselves in the fields of guerrilla marketing, thus improving themselves and contributing to the better education of new staff who will be in a better position in the future. position to use the potential of guerilla marketing in full intensity.

In the end, the hope remains that this research work will mainly contribute to the development of awareness among all those interested in improving their own business, as well as a successful proposal for all those who strive for innovation in the field of marketing. Guerrilla marketing on the domestic market is certainly a novelty with which few people are still familiar, and there are even fewer people who have the desire to apply it in the real world. This very phenomenon shows that society is in need of additional training in terms of contemporary business trends, but also that each individual is in need of skills development in order to eventually reverse the negative trend of doing business in a passive economic environment, and to generate additional income as a pioneer in this segment on the domestic BiH market.

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THE IMPACT OF THE BUSINESS IMAGE OF BOSNIA AND HERZEGOVINA ON ATTRACTING FOREIGN INVESTMENTS

ABSTRACT

In order to achieve economic progress in less developed countries, it is imperative to provide the necessary resources. Foreign investments frequently serve as the primary source of financing for many global economies, intensifying the competition for limited financial resources. To attract more foreign investments, countries should find out what the perception of their image is in the minds of potential investors or consumers and develop an image management strategy. In recent years, a substantial body of research has emerged addressing the aforementioned issue, and show that image has increasing power in a globalized and interconnected world, and that it directly affects the success of the country and the achievement of national goals. Surprisingly, no research has yet delved into the image of B&H and its impact on the country's political and economic standing within the contemporary international environment. Therefore, this paper analyzes the results of the primary research on the image of B&H conducted on a sample of 150 companies. The acquired data were analyzed utilizing SPSS Statistics 20, and statistical methods such as the χ2 test, contingency coefficient, and Kramer's V coefficient were used to prove the interdependence between the observed variables. Based on the results of the research, it was established that the business image significantly influences foreign investments, and recommendations were given for improving the business image of B&H.

Keywords: bussines image, foreign investments

JEL: M31

INTRODUCTION

The main problem when promoting B&H as a business destination stems from the damaged image of the country. The consequences of the war, the high level of corruption and poverty put B&H in an extremely low place in terms of attractiveness as a business destination. Although it is a small market, it has a favorable geographical position, with the possibility of daily distribution to the markets of surrounding countries, as well as to developed European markets. According to numerous researches by the World Bank, Transparency International, International Monetary Fund and others, constant political turmoil, high level of corruption and poverty prevent the further development of B&H and the movement towards the European Union. Of course, in the last decade there has been a significant improvement in the situation in the country, but the results that have been achieved are modest in comparison to the potential of the BiH market.

The image related exclusively to the war will follow B&H until some major positive event happens or until the construction of a new image based on certain positive values is started. It is known that many countries and cities strive to attract major sporting events, such as the Olympic Games, music festivals, such as Eurovision, as well as holding trade fairs and demonstrations. It should be

remembered that the organization of such events is very expensive and requires large financial investments, but the positive effects would far exceed the investments. Of course, all these events would produce a short-term positive effect, but they would awaken the attention of the world's media, which, with adequate promotional measures and mechanisms, could be transferred to the entire country. Already, back in 1984, B&H, part of the Socialist Federal Republic of Yugoslavia, hosted the Winter Olympic Games, which were held in Sarajevo. Unfortunately, that was the only opportunity for B&H to present itself as the host of such an important event. In fact, a manifestation of this type would have the effect of improving the current image of B&H and redirecting attention to positive events. When the world media report on B&H, they always emphasize that it is a country that was affected by a war conflict and that can still destabilize the Balkans, and this attitude always has a disincentive effect on potential investors.

Bearing in mind the above, this paper tries to get an answer to the following research question:

- Has B&H built a positive business image that attracts foreign investments?
- Do foreign investors perceive B&H as a safe country with a low level of corruption and a good investment climate?
- Does the existing business image of B&H affect the level of foreign investments?

LITTERATURE OVERVIEW

In the last decade, at the global level, a large number of authors have been researching the impact of business image on attracting foreign investments. A large number of works were published, and the following notable authors stood out: Kotler, Nagashima, Morgan, as well as many others. When it comes to B&H, the number of authors who researched the business image of B&H as a business destination and its impact on attracting foreign investments is insignificant. However, in the last period, a certain number of authors are increasingly studying the mentioned area of research, and more concrete results can be expected in the coming period.

In order to successfully attract foreign investors, besides all else, it is highly important to create positive image of the observed region. If we aware that the process of creation of a positive image represents a long term and hard task before which a government of a certain country is put before, then it is understandable that only through synergetic effects of multiple factors, set goals (and attracting FI may be one of them) may be realised. A country should become present at the World business scene, building a recognisable and a strong image, while at the same time, opening up new perspectives and providing support to existing exporters. A country should build a strong geographic brand, promote tourism potential, and realise business connections with many countries, especially the ones from the region (Smajlovic, Kamaric, Ninic, 2014, p. 599).

Therefore, it is highly important for each business destination to create a unique set of positive and recognisable characteristics that would represent the observed area in an adequate way. Factors that determine the attractiveness of certain destinations could have a tangible and non-tangible character. The tangible determinants are those that could be measured, that provide a concrete satisfaction to the investor. While, the non-tangible determinants do not have those characteristics, they are determinants that create the feeling of satisfaction and security of business operations on a certain location (Rakita, Sipragic, 2010, p. 215). States and nations should be aware of their environment and clearly define who they are and what they want, what they can offer the world, why they are important to some and why others should respect them. They have to find a way to attract the attention of investors and tell them their story, and how to create devotees, customers, lobbyists, friends or just reduce the number of enemies in the target group (Skoko, 2012, 16). The image of a particular country is a derived category based on civilizational, cultural, economic, historical, geographical, political and sociological aspects, and as

a whole it is very specific and measurable (Kesic, Piri, 2001, p. 193). Marketing is proficient to strengthen the image of destination even in the scenario when target group have already developed an image of a place. Image is basically the sum of beliefs and impressions that individuals possess for a destination, while destination identity is concern about how a specific place desires to be professed and a collection of particular brand features that marketers believe would separate their destination from its competitors appropriately. The aim of marketing correspondence at this stage is to establish an association between image and destination identity (Baloch, at alia, 2022. p. 70).

Image in marketing implies an emotional representation or image of a specific marketing object: product, brand, company, nation, etc. That is, the image is a set of beliefs, ideas, attitudes, ideas, stereotypes, prejudices that the subject has about a certain object, and these are created in the subject under the influence of psychological (perception, attitudes, motivation, personality, experience and expectations) and social factors (culture, family, reference groups, occupation, lifestyle, self-image) (Babic, 2004, p. 18). Image is defined as a reflection of the entire knowledge, impressions, prejudices, imagination and emotional development of an individual or group. It is a concept that can be shared by a group of people, not just an individual. Such a definition is significant from a marketing point of view, as it enables an understanding of the image that is common to the members, and this provides a basis for market segmentation and the development of marketing strategies, especially in the concept of marketing locations and attracting foreign investment (Pavlic, Kesic, Jakeljic, 2004, p. 18). Image is the set of feelings, attitudes, experiences and opinions, which a person or a group of persons, consciously and subconsciously, have acquired about a certain object (eg product, brand, company). The image is influenced by socio-cultural and subjective moments (experiences, prejudices) and represents a simplified stereotype of objective reality (Essig, Soulas de Russel, SemanaKova, 2003. p 18). Baloglu & McCleary pointed out that there are two groups of factors that influence the image formation process: personal and stimuli factors. While personal factors involve social and psychological attributes, stimulus factors involve commercial, noncommercial information and previous experiences. Word-of-mouth is one of the most efficient non-commercial stimulus information sources (Bagolu, McCleary, 1999, p. 152). The country's image is shaped by a large number of different determinants, which may or may not be under the direct control of state institutions. Nagashima identified the following determinants that influence the formation of a location's image: representative products, national characteristics, economic environment, political environment and history and tradition (Nagashima, 1970, p. 72).

It was necessary to identify how locations communicate and influence the creation of their image. In one of the attempts to present how places communicate with the outside world and shape their image in the minds of certain groups of the public, they are presented through a model called the Hexagonal Model, which includes six channels or areas of activity that states use most often: Tourism promotional activity, as well as people's experiences during their first tourist or business visit to a country, arouses the most interest when branding a country or region, since tourist arrangements usually have the largest budget and the most competent marketing experts. Their exported products and services that have the role of powerful ambassadors for the representation of each country and region, but only when the place of origin is explicitly stated. Political decisions, regardless of whether it is about foreign policy that has a direct impact on the location or according to the policy that is conducted in the international media, diplomacy is the traditional basic route by which such decisions are transmitted to the outside world, although the importance of those who political decisions are also broadcast by international media. For the business world, the way in which a region or country submits a request for local investments, the engagement of investment talents as well as the expansion of the arrival of foreign companies in the country or region. Through cultural exchanges and activities: the world tour of the national opera, the works of a famous author or the national sports team. The population of the country itself: professional leaders, media and sports stars, as well as the general population, the way they behave when abroad and how they treat visitors in their own country (Morgana, Pichard, Prajd, 2015, p. 41).

According to Anholt, competitive identity has three characteristics. First, attracts - consumers, tourists, talents, investors, and arouses respect and attention. Second, it transfers the attraction to other objects - Brand Italy transfers its magnetic attraction to Italian products and to Italians, thus making them equally attractive even when they are out of context. Third, it has the power to create order out of chaos - The success of this concept lies in the synergistic action of marketing actions and branding. If we give a geographical location, region, country a new name, logo or change a slogan, we will not do anything significant to change the image, until we change ourselves, because the reputation of a place exists in the perception of countless consumers around the world and cannot be changed overnight (Dasic, 2013, p. 9).

The image of the state and its influence on the political and economic position of the state in contemporary international relations were, until recently, a rather unexplored scientific area. However, in recent years, a significant number of research papers have been published that deal with the aforementioned issue and show that image has an increasing power in a globalized and communication networked society, and that it directly affects the success of the state and the achievement of national goals. One of the most researched areas about the power of image is the so-called country of origin concept. Country of origin perceptions are mental associations and beliefs created by a country (Kotler, Haider, Irving, 1993, p. 686). People have their own attitude towards the country and the products that come from a certain territory, and the origin has a great influence on the final choice (Janes, Malota, 2009, p. 4). Government officials want to boost their country's image to help domestic export marketers and attract foreign businesses and investors. Based on several research studies, the following conclusions were reached: people are often ethnocentric and favor the products of their country, except in the case of people from less developed countries; the more positive the country's image, the more prominent the "Made in" label will be,the influence of the country of origin depends a lot on the type of product; certain countries have built strong reputations for certain products: Germany for cars, Switzerland for watches and chocolates, France for perfumes and wines; the perception of the country of origin can very often include the products of the entire country, one survey showed that Hong Kong residents perceive all American products as prestigious, Japanese as innovative, and Chinese as cheap (Kotler, Haider, Irving, 1993, p. 687).

METHODOLOGY OF RESEARCH

One hundred and fifty companies that operate in the territory of B&H and that have a share or the entire ownership of a foreign investor in their capital participated in the primary research. A sample of one hundred and fifty companies was obtained based on the list of companies obtained from the Agency for the Promotion of Foreign Investments of B&H. Applying a stratified proportional sample, 150 companies were selected and sent a questionnaire. Data collection was carried out through personal contact with the management of the company or via e-mail. Of the one hundred and fifty selected companies that were sent the survey questionnaire, one hundred and four companies filled it out, that is, the response rate was 69.33%. The collected data were classified and systematized, and all were entered into the Excel program for preparation for further analysis. After that, editing and grouping of data was done, as well as their presentation through tabular and graphic displays. When the data were ready for further processing, they were imported into a statistical program for social sciences, namely SPSS Statistic 20. In addition to descriptive analysis, the collected data were also analyzed using the $\chi2$ test in order to determine interdependencies between the observed variables.

ASSESSMENT OF BOSNIA AND HERZEGOVINA AS AN INVESTMENT DESTINATION

During the primary research, foreign investors had the opportunity to evaluate the image of B&H as a business destination. The scores ranged from one to five, where the number one represents an extremely unfamiliar image, and the number five represents an extremely familiar image. Out of the total observed foreign investors, 19.23% of respondents believe that B&H has an extremely unknown image. Then, 46.15% of foreign investors believe that the image is unknown, while 21.15% of respondents believe that the image of B&H is neither known nor unknown. On the other hand, 9.62% of surveyed foreign investors believe that the image of B&H as a business destination is well-known, while only 3.85% of respondents believe that B&H has an extremely well-known business image. Based on the obtained data, we can conclude that B&H has an unknown image as a business destination. The obtained results are presented in Chart 1.
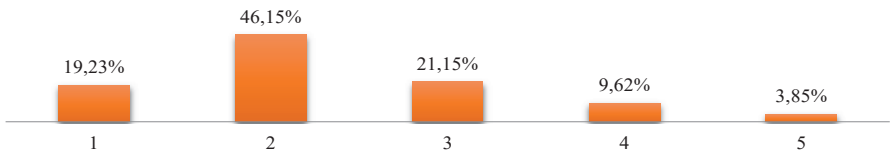
Graph 1. Recognizability of the image of Bosnia and Herzegovina as a business destination
Source: Results of primary research

When filling out the questionnaire, foreign investors had the opportunity to express their opinion and to propose measures that should be taken in order to improve the image of B&H as a business destination. The majority of respondents believe that first it is necessary to solve internal problems in the state, and then that it is necessary to approach the strategy of building a positive image. First of all, it is necessary to reduce the level of corruption and increase the safety of both persons and their property. In addition, it is necessary to minimize the political influence on the economic environment, and to enable the free movement of capital and people. Foreign investors point out that it is necessary to approach the implementation of existing laws and procedures and harmonize them with European Union standards as much as possible. After the establishment and improvement of these general parameters, foreign investors believe that only then it is necessary to start building the image of B&H as a business destination. However, it is necessary to constantly promote the economic potential of B&H, because fundamental changes require an influx of funds in order to be implemented. For this reason, the Council of Ministers of B&H should carry out the promotion of the existing economic potential, with constant promises and making small steps towards improving the business environment, and present every positive effect to potential investors and thus show their willingness to build a healthy and competitive economic environment.

The business environment solely depends on the human factor and largely determines the intensity of the inflow of foreign investments. In the primary survey, foreign investors had the opportunity to evaluate their previous business experience and investment climate. On a scale of one to five, Strati investors evaluated the previous business experience in the territory of B&H, where number one represented an extremely negative business environment and number five an extremely positive business environment. The obtained results based on this research question ranged on a scale from two to four. That is, 26.92% of foreign investors declared that they had a negative business experience on the territory of B&H, while for 46.16% of foreign investors the business experience was neither positive nor negative. On the other hand, 26.92% of foreign investors had a positive business experience. Based on the stated research question, the results are presented in Chart 2.
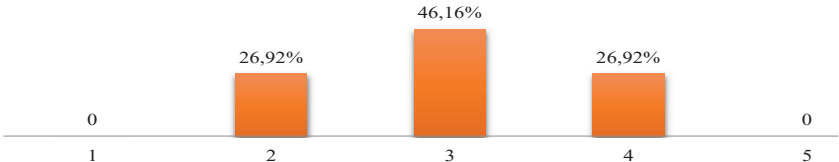
In the questionnaire, foreign investors expressed their opinion based on two very important questions for assessing the investment climate, namely whether they consider B&H to be a safe business destination and whether they consider corruption to be present in Bosnia and Herzegovina. When it comes to the safety of the business destination, only 23.08% of foreign investors believe that B&H is a safe business destination. On the other hand, 76.92% of foreign investors believe that B&H is not a safe destination. The obtained research results are presented in Chart 3.

NO   76,92%

YES   23,08%

Graph 3. Perception of Bosnia and Herzegovina as a safe business destination
Source: Results of primary research

Applying the χ2 test, where the perception of the security of B&H as a business destination was set as the independent variable of the research, and the amount of initial investment was set as the dependent variable of the research, it was proven that there is interdependence between the observed variables. That is, those foreign investors who considered B&H to be a safe business destination had larger initial investments. In addition to the χ2 test, the contingency coefficient and Kramer's V coefficient were calculated. According to the research results, the contingency coefficient is 0.361, and Kramer's V coefficient is 0.340, based on which we can conclude that the dependence between the observed variables is moderate. The research results, which are presented in Table 1, confirm that the perception of B&H as a safe investment destination significantly affects the level of initial investments.

Table 1. Assessment of dependence between the perception of Bosnia and Herzegovina as safe business destinations and initial investment amounts

	Chi-square test; Pearson χ2; Asymp. significance (two-sided)	Symmetry measures; Cramer's V	Symmetry measures; Contingency coefficient	Rating (comment)
Safety as a business destination (independent variable) vs Amount of initial investment (dependent variable)	,044	,361	,340	Yes, there is an addiction

Source: Results of primary research

When we look at the results of the research on the dullness of corruption in B&H as a business destination, we can state that they are very unfavorable. Namely, 76.92% of foreign investors believe that corruption is present in B&H, while 23.08% of foreign investors believe that it is not. The obtained research results based on this research question are presented in Chart 4.

NO   23,08%

YES   76,92%

Graph 4. Representation of corruption in Bosnia and Herzegovina
Source: Results of primary research

Using the χ2 test, where the representation of corruption in B&H as a business destination was set as the independent variable of the research, and the amount of initial investment was set as the dependent variable of the research, applying the mentioned test proved that there is interdependence between the observed variables. That is, those foreign investors who believed that there was no high level of corruption in B&H had larger initial investments. For this reason, the authorities in B&H should take all measures to reduce the level of corruption. For the purposes of further interpretation, as in previous cases, the Contingency Coefficient and Kramer's V coefficient were calculated. According to the research results, the contingency coefficient is 0.361, and Kramer's V coefficient is 0.341, based on which we can conclude that the dependence between the observed variables is moderate. The obtained research results are presented in Table 2.

Table 2. Evaluation of the dependence between the perception of the representation of corruption in Bosnia and Herzegovina and the amount of the initial investment

	Chi-square test; Pearson χ2; Asymp. significance (two-sided)	Symmetry measures; Cramer's V	Symmetry measures; Contingency coefficient	Rating (comment)
Corruption of B&H as a business destination (independent variable) vs Amount of initial investment (dependent variable)	,044	,360	,341	Yes, there is an addiction

Source: Results of primary research

Foreign investors evaluated the general impression of the investment climate on a scale of one to five, the number one indicating an extremely negative investment climate, and the number five indicating an extremely positive investment climate. The obtained results ranged from two to four grades. According to the research results, 48.08% of foreign investors rated the investment climate as negative, and 44.23% of foreign investors rated it as neither positive nor negative. Only 7.69% of foreign investors rated the investment climate as positive. The results of the research based on this research question are presented in Chart 5.
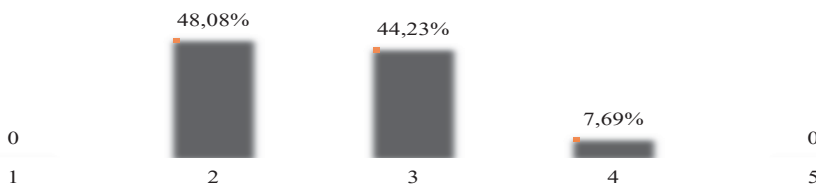

Chart 5. Respondents' general impression of the investment climate in Bosnia and Herzegovina
Source: Results of primary research

Applying the χ2 test, where the assessment of the investment climate was set as the dependent research variable, and the amount of initial investment as the independent research variable, it was proven that there is interdependence between the observed variables, and the obtained significance is 0.000 (Asymp. Sig.). That is, those foreign investors who positively evaluated the investment climate had larger initial investments. After calculating the χ2 test, the contingency coefficient and Kramer's V coefficient were calculated. According to the obtained research results, which are shown in Table 3, the contingency coefficient is 0.491 and Kramer's V coefficient is 0.570, based on which we can conclude that there is moderate dependence between the observed variables.

Table 3. Evaluation of dependence between respondents' views on the investment climate in Bosnia and Herzegovina and the amount of initial investment

	Chi-square test;	Symmetry	Symmetry	Rating

	Pearson χ2; Asymp. significance (two-sided)	measures; Cramer's V	measures; Contingency coefficient	(comment)
Rating of the investment climate in B&H (independent variable) vs Amount of initial investment (dependent variable)	,000	,491	,570	Yes, there is an addiction

Source: Results of primary research

Also, with the χ2 test, where the investment climate assessment was set as the independent variable of the research, and the attitudes about the advantages of the Bosnian market compared to the countries of the region (Serbia, Croatia and Montenegro) were set as the dependent variable of the research, the obtained significance is 0.000 (Asymp. Sig.). Based on the results of the research, it was proven that there is a dependence between the observed variables. That is, those foreign investors who evaluated the investment climate more positively, considered that B&H has greater advantages compared to neighboring countries. In addition to applying the χ2 test, the contingency coefficient and Kramer's V coefficient were calculated. According to the obtained research results, the contingency coefficient is 0.785, and Kramer's V coefficient is 0.896, and based on the obtained results, we can conclude that the dependence between the observed variables is strong. The obtained research results are presented in Table 4.

Table 4. Evaluation of dependence between respondents' views on the investment climate in Bosnia and Herzegovina and views on the advantages of the Bosnian market in compared to neighboring countries

	Chi-square test; Pearson χ2; Asymp. significance (two-sided)	Symmetry measures; Cramer's V	Symmetry measures; Contingency coefficient	Rating (comment)
Assessment of the investment climate in B&H (independent variable) vs Advantages of the B&H market compared to countries from the region (dependent variable)	,000	,896	,785	Yes, there is an addiction

Source: Results of primary research

CONCLUSION

The image of each country consists of many components, which are very difficult to synchronize. It is precisely for this reason that the image of the state is very difficult to change and represents one of the biggest challenges for modern marketing experts. In order to build a successful image of any location, it is necessary to eliminate the existing problems that foreign investors face when investing. The image of B&H as a business location is perceived as negative primarily because foreign investors believe that the market is not safe and that there is a high level of corruption.

According to the results of the research, the image of B&H as a business location was assessed by 19.23% of residential investors as extremely unknown, 46.15% as unknown, 21.15% as neither known nor unknown, 9.62% as known and 3.85% as extremely famous. Based on the presented results, we can conclude that foreign investors perceive the image of B&H as unfamiliar and have rated it with an average score of 2.33. When it comes to the safety of B&H as a business destination, 76.92% of surveyed foreign investors believe that B&H is not a safe business

destination, while the remaining 23.08% of foreign investors believe that it is. Also, according to the results of the analysis that were used to confirm the first working hypothesis, it was proven that there is a moderate dependence between the security of B&H as an investment destination and the amount of initial investment (Kramer's coefficient V=,361). Investors who negatively assessed the security of B&H as an investment destination had smaller initial investments. According to the research results, 80.77% of foreign investors believe that corruption is present in B&H, while 19.23% of foreign investors believe that it is not. Based on the results of the analysis, which were also used to confirm the first working hypothesis, it was proven that there is a moderate dependence between the degree of corruption and the amount of initial investment (Kramore's coefficient V=.360). That is, those companies that assessed that there is a high degree of corruption had smaller initial investments. The business experience was rated with an average rating of 3.00, that is, foreign investors rated it as neither a positive nor a negative business experience, and the investment climate was rated with an average rating of 2.48, so we can say that they perceive it negatively.

According to the research results, foreign investors perceive the business climate as neither positive nor negative, and they rated it with an average score of 2.60. The results of the analysis show that there is a moderate dependence between the assessment of the investment climate and the amount of the initial investment (Kramer's coefficient V=.491). That is, those investors who evaluated the investment climate negatively mostly had smaller initial investments. Based on the presented research results, we can conclude that foreign investors believe that B&H has a negative image as a business destination, and the low inflow of foreign investments can be linked to this fact. In order to improve the image of B&H as a business destination, it is first necessary to make the market safer and reduce the level of corruption. In this regard, we can single out the following recommendations: legislative and executive power in B&H should ensure safe business for foreign investors; in order to facilitate the inflow of foreign capital, the government in B&H should determine various incentive measures such as: faster and simpler company registration, facilitate the process of renting or buying investment facilities, encourage the change of BOT arrangements, etc.; after the prerequisites for building the business image of BiH are adopted, it is necessary to promote them in the international business environment, in order to attract foreign investors.

Future research on the business image of B&H could refer to: research on the significance of the geographic location of B&H for foreign investors; research on the importance of an educated workforce, as well as their price in B&H for foreign investors; apply multivariate analysis to the statistical processing of the obtained data.

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THE IMPACT OF THE INSTITUTIONAL FRAMEWORK ON CONNECTIVITY AND HUMAN RESOURCES AS DIMENSIONS OF THE DIGITAL ECONOMY

Abstract

The purpose of the research is to identify the impact of the functions of the institutional framework on the digital economy among the population in Bosnia and Herzegovina. Analyzing the research results, we can confirm and conclude that there is an influence of the determinants of the institutional framework on the digital economy. More precisely, the institutional framework makes a significant unique contribution to the prediction of human capital and connectivity as components of the digital economy. According to the mentioned results and based on relevant theoretical sources and conducted analyses, procedures, and results of empirical research, we can state that the institutional framework significantly affects the digital economy among the population in Bosnia and Herzegovina. The research results confirmed that there is great dissatisfaction among the citizens of Bosnia and Herzegovina when it comes to the support of state institutions for the digitization of society and the improvement of citizens' lives. Also indicative is the negative perception that municipalities, cantons, and structures at the state level do not invest in the development of ICT to support digitization and make life easier for citizens, while the assessment of investments by state and private telecom operators is indifferent. All other research results were positively perceived by the citizens of Bosnia and Herzegovina. The sample consisted of 1427 (n = 1427) respondents from Bosnia and Herzegovina based on the principle of the snowball method. When it comes to Bosnia and Herzegovina, there is no relevant research on the impact of the institutional framework on the digital economy among the population in Bosnia and Herzegovina, which is the main motive of the research.

Keywords: institutional framework, digital economy

JEL: O14, 038

INTRODUCTION

The institutional framework represents a perspective through which the phenomena of the digital divide can be viewed, explained, and measured at the individual, national and global level and refer to institutions that have an impact on policy, legislation, regulation, and the market mechanism of ICT. In light of all such circumstances, there seems to be a common view that the digital divide is not only about access to technology but also about institutional and socio-economic components. Some institutional environments enable governments and ruling elites to encourage technological change, while others allow for a slowdown or complete distraction from digitization and technological progress. Interest groups that believe they will lose out on Internet adoption try to use political institutions to enact policies that block the spread of the Internet, hoping to slow or stop its diffusion. The institutional framework as a dimension of the digital divide has a great impact on the digital economy.

The digital economy is in constant transformation and diffusion of innovations. By understanding the patterns of transformations, ICT regulators and policymakers can anticipate changes arising from gradual waves of digitization and technological progress, leading to a better assessment of the digital economy. The development of a sustainable digital economy and institutional framework does not depend on one factor but on several factors including the political environment, telecommunications infrastructure, legislation and regulatory atmosphere, quality information, and the most important social and economic reforms, as well as the characteristics of governance and citizen engagement. Other factors that influence the adoption of the digital economy and the institutional framework are demographics, skills, and the socioeconomic structure of citizens.

In general, each government through its institutions is responsible for adapting the best appropriate digitalization management strategy according to its country, culture, economic needs, and values. However, despite the implemented management strategy within the existing institutional framework, a sustainable digital economy will always require a review of management mechanisms and a run of more flexible and adaptable mechanisms. The redefined mechanisms of social governance enable all stakeholders in society to actively participate in the construction of the best norms and codes of conduct to use the advantages of the digital economy in their full capacity. It is extremely important to include all other stakeholders such as the academic community, the business sector, professional associations, the media, non-governmental organizations as well as citizens. Public policy should support the digital economy at all levels in the country and create an environment for implementing the digital economy.

The subject of the research is the identification of the impact of the institutional framework on the digital economy and the activities of citizens in Bosnia and Herzegovina. The paper aims to identify and describe the impact of the institutional framework on the activities of citizens in the digital economy in Bosnia and Herzegovina in the period from December 2019 to June 2021.

After the introductory considerations and definition of the research problem, the research paper follows with the literature review, empirical research methodology, and research results obtained by processing and analyzing primary data using appropriate statistical methods. At the end of the paper, concluding considerations and recommendations for future research are presented.

LITERATURE REVIEW

The impact of the institutional framework on the digital economy is a topic of great importance because it defines the environment in which citizens act through interaction with digital technologies. According to some authors, the perspective of the institutional framework in the context of the digital economy includes a new set of interconnected management beliefs and norms, organizational practices and different material and social structures that together complement and challenge the established logic in organizations and institutional fields (Schildt, 2022, p.235). One of the key aspects of the institutional framework is the legal and regulatory environment. Clear and supportive legal frameworks are key to encouraging investment in digital infrastructure that will be accessible to the population and that will serve to protect consumers in the digital space. In this context, according to recent research on the importance of consumer protection in the digital ecosystem, the regulatory framework - General Data Protection Regulation - GDPR, aims to establish firm data protection standards (Mittelstadt et al., 2016, p.15).

In the context of the growing demands of citizens, digitalization has an imperative to orient its users (citizens) to provide faster, more efficient, and transparent services and thus contribute to the quality of life of citizens and create added value to the overall service value chain in the digital economy. Generally speaking, a sustainable and adaptive digital economy stimulates citizens and all

other participants in the digital economy to assess the quality of digital service and examine the threats posed by digitalization, as well as to improve and propose effective management strategies.

The institutional framework has a profound impact on the connectivity of the population, that is, on the access and use of digital technologies. Statistical analyzes indicate the existence of a statistically significant influence of certain factors of the institutional framework on the connectivity of the population. In this regard, recent research highlights that traditional transportation infrastructure, government attention, human capital level for the influence of technological innovation, formed in the digital infrastructure and digital economy elements of the closed loop (Xing, 2022, p.54). Some authors believe that public policy makers and other leaders should coordinate their efforts and adopt innovative solutions for all the challenges of the digital divide (Shenglin et al., 2018). Legislation, regulation, digital infrastructure, investment, and access to education and digital literacy play a key role in shaping population connectivity.

Investing in the development of the institutional framework can ensure favorable conditions for increasing the connectivity of the population, which contributes to the development of the digital economy and society as a whole. According to data from the International Telecommunication Union (ITU), by the end of 2020, over 59% of the world's population had access to the Internet, which highlights the widespread adoption of digital technologies (ITU, 2021). At the global level, the World Bank estimates that the digital economy contributes more than 15% of the global gross domestic product (GDP), and in the past decade, it has been growing two and a half times faster than the physical world GDP (World Bank, 2022). Digital infrastructure, including broadband connectivity and advanced digital platforms, is a critical factor in influencing the institutional framework for the digital economy. Access to reliable and fast Internet is necessary to enable digital transactions, e-commerce, and the adoption of digital technologies by businesses and individuals. Connecting citizens is essential to drive economic growth, provide access to information and knowledge, and foster social inclusion in the digital era. By ensuring widespread and accessible connectivity, policymakers and stakeholders can empower individuals to fully participate in the digital society, bridge the digital divide and use digital technologies for their personal and professional development. Investing in connectivity infrastructure and promoting digital literacy can unlock the transformative potential of digitization and contribute to sustainable development.

Institutional factors have a significant impact on human capital, which refers to the level of digital skills and digital literacy of the population. The availability of quality education and training programs that equip individuals with the necessary digital skills is critical to participating in the digital economy. Research by some authors emphasizes the importance of human capital development and people-oriented principles, there is a growing interest in the effects that the social economy may have onthe achievement of sustainable development goals (Núñez et al., 2020, p.1). Focusing on digital skills is a priority and an essential segment for improving access to the labor market. Digital literacy represents perhaps the most important segment of human capital, which is measured by the level of knowledge and skills required for the safe and efficient use of digital technologies.

Some of the authors believe that political initiatives that focus on bridging the digital divide and ensuring the digital inclusion of citizens can significantly contribute to a fairer and more sustainable digital economy (Dwivedi et al., 2020 p.34). Looking at the human resources segment, it is clear that a lack of basic user skills prevents individuals from interacting online and consuming digital products and services for advanced users and is counterproductive to efforts to empower the workforce with digital skills to use technology to increase productivity. The development of information and communication technologies is proceeding at an unprecedented speed, which is not corresponding to the development of digital skills. Terms that are increasingly present in our lives

such as the Internet of Things, Artificial Intelligence, and Big Data will create an even bigger gap for individuals and groups who do not or are unable to learn. and follow new trends.

In conclusion, the impact of the institutional framework on the digital economy is multiple and significant. The legal and regulatory environment, government policies, digital infrastructure, data protection regulations, digital skills, entrepreneurship, and collaboration among all stakeholders play a key role in shaping a citizen-friendly digital economy. Mastering digital transformation by governments, businesses and societies is likely to be a defining core competency of the twenty-first century (Hanna, 2018). Multi-stakeholder partnerships can encourage dialogue, knowledge sharing, and the development of effective policies and regulations that are in line with the needs and aspirations of different stakeholders (OECD, 2019). The institutional framework plays an extremely important role in the acceptance of the digital economy among the population. Investments in the development of the institutional framework can encourage innovation, investment, and digital inclusiveness of citizens in the digital economy, thus directly stimulating economic growth and social development. Understanding and addressing the implications of the institutional framework on citizens is essential to fostering a thriving and sustainable digital economy. The full potential of the digital economy cannot be realized without the synergistic efforts of governments, institutions, industry, civil society organizations, and the academic community. Complementary institutional actions such as digital skills training, accessibility, innovative policy, multi-level governance, and institutional accountability will result in economic, educational, and also improvement in living standards.

RESEARCH METHODOLOGY

As part of the primary research (field research), data were collected using the survey method, using a survey questionnaire as a technical means of data collection. The collection of primary data for this part of the research was carried out in the period from 06.12.2019 to 29.06.2021. years. and is part of a wider research that, in addition to the population, also included the business sector in Bosnia and Herzegovina. Primary data was collected using the snowball method, which was partly done electronically using Google Forms a platform for online surveys, and partly by personally surveying respondents. In principle, the main advantage of the snowball or multiple sample is the economic efficiency of the procedure, given that it is formed in such a way that the researcher, on a case-by-case basis, identifies the initial persons who have the studied trait, and then asks them to identify other respondents who also have the same. In other words, based on the information obtained from the initial respondents, the subsequent ones are identified, and so on, hence the metaphorical name of the "snowball" sample.

In the process of data collection, the answers of 1427 respondents were collected, based on which empirical research will be carried out for the needs of this part of the work. The survey questionnaire that was used in the research was designed in several parts, so, in addition to the categorical socio-demographic characteristics of the respondents in terms of territorial distribution, gender, age, level of education, work status, average monthly income, and the number of household members, they are through segmented parts of the same, among other things, collected data on the support of political parties, the legislative-legal system and the regulatory agency for communications to the digitization of business, the use of the Internet and information and communication technologies, and the level of knowledge of computer applications and skills and in general information literacy.

The survey questionnaire, except for the question about territorial affiliation, is structured in the form of closed-ended questions, whereby the respondents had the opportunity to evaluate their degree of agreement with certain statements through the offered answer form in the form of a five-point Likert response scale. The second, admittedly smaller number of questions, related to

dichotomous variables to which respondents had the opportunity to answer through the modalities "yes" and "no", and rounding one of the offered alternative answers.

The methods that will be used in the presented scientific research work to investigate and present the results of scientific research are inductive and deductive, methods of analysis and synthesis, comparative methods, and statistical methods. During the research, the analysis of relevant scientific research and studies in the form of books, textbooks, magazines, official publications, websites, as well as other relevant literature will be carried out. The inductive method will be applied in the reverse direction - to derive general propositions from individual facts. The deductive method will be used to derive appropriate concrete assumptions and conclusions from general statements. These two methods will be used to explain established and discover new knowledge and new laws, as well as to prove established theses and test hypotheses and predict future events.

The method of analysis will enable the explanation of the problem and the subject of research by breaking it down into simpler parts and researching each part separately concerning other parts, which will enable the observation, discovery, and study of the scientific truth about mutual relationships. The synthesis method will be used to combine the obtained research results into a single unit in which these results are mutually related. The comparative method will be used to compare the same or related facts, phenomena, processes, and relationships, i.e. it will help to establish their similarities in behavior and intensity, as well as the differences between them. Following the usual research standards in the social sciences, the data obtained from the questionnaire will be processed using SPSS modern software package for statistical analysis. Bearing in mind that the research hypotheses were formulated in such a way as to test the influence (causality) of one variable on another, and not the connection (connection) between the defined variables, regression analysis was used in the paper. The method of description will be used to describe facts and their empirical confirmation but without scientific interpretation and explanation.

Research variables

The variables observed in the context of the empirical research are:

The independent variable relates to the institutional framework. An institutional framework refers to the system of rules, regulations, norms, and organizations that shape and govern the behavior and interactions of individuals, groups, and institutions within a particular society or sector. It provides the foundation for organizing and structuring various aspects of social, economic, and political life.

The dependent variable is related to the digital economy which is operationalized through two second-order variables: connectivity and human capital. The digital economy refers to an economic system in which digital technologies play a significant role in various aspects of business operations, economic activities, and interactions. It encompasses the production, distribution, and consumption of goods and services that are primarily facilitated by digital technologies and the Internet.

Indicators for measuring independent variables are the functions of the institutional framework, as follows:

- support of political structures at all levels for the digitization of society and the improvement of citizens' lives,
- support of the legislative and legal system for the digitization of society and the improvement of citizens' lives, and
- support of the regulatory agency for communications to the digitization of society and the improvement of citizens' lives.

To test the first auxiliary hypothesis, the connection variable was observed through two indicators:

- number of fixed internet connection users in the household and
- number of active mobile devices with internet access in the household,

and its value implies a simple sum of respondents' answers for the two indicators mentioned.

To test the second auxiliary hypothesis, human capital is conceptualized through four indicators of basic digital skills included in the survey questionnaire:

- proficiency in basic computer applications
- level of communication skills
- level of knowledge with transferring files between devices, installing software, and adjusting settings
- level of IT literacy, including the ability to create, manage, and store documents and files, as well as locate information online

The planned research will be based on the application of scientific methods of secondary and primary research.

RESULTS AND DISCUSSION

Inspecting the results of the research, 63% of respondents reside in the territory of the Federation of Bosnia and Herzegovina, 32.45% of them in the territory of Republika Srpska, and 4.55% in Brčko District of Bosnia and Herzegovina..
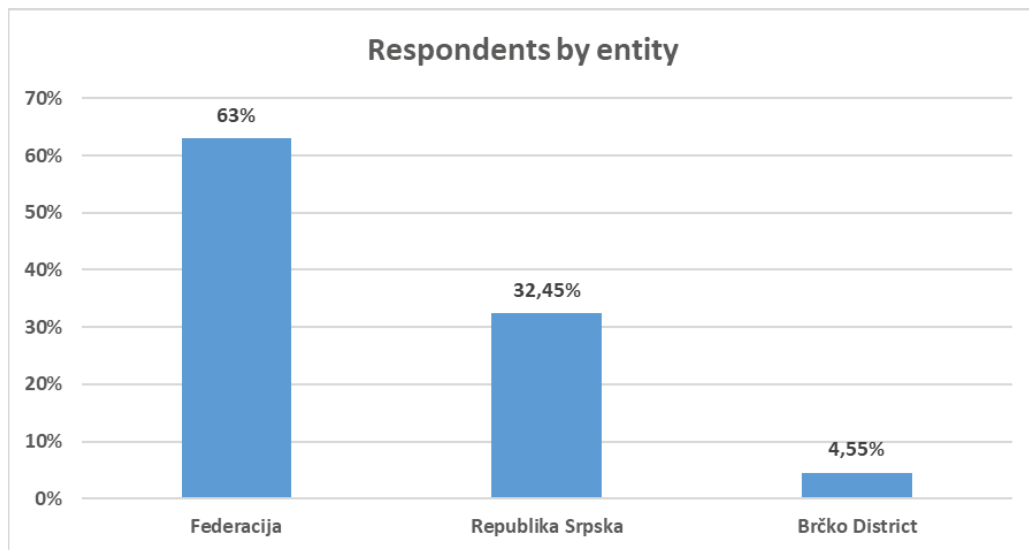

Figure 1. *Respondent demographics based on entity*
Source: Authors' research

If the location of the residence is considered according to whether it is an urban or rural environment, our research includes 78.98% of respondents who live in urban areas and 21.02% of respondents who live in rural areas.
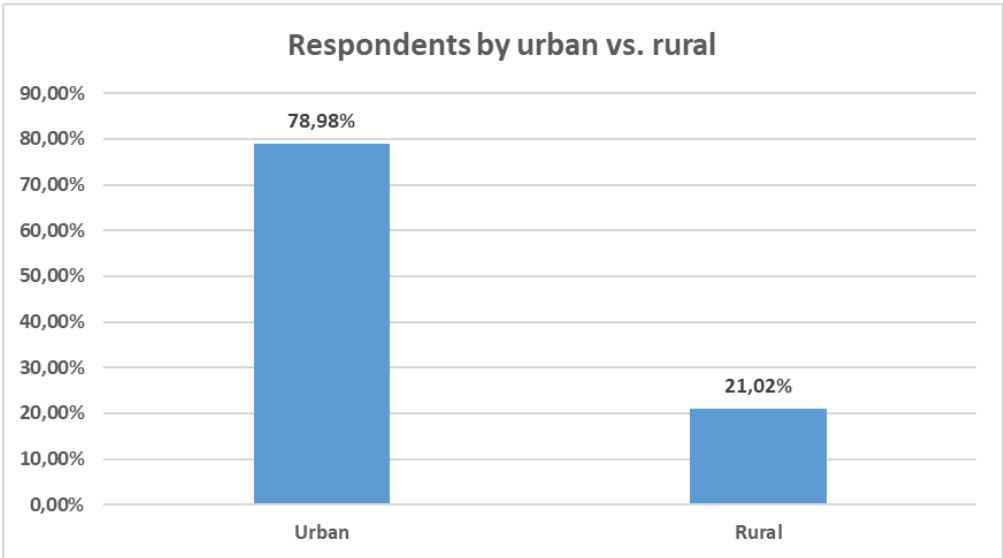
Figure 2. Respondent demographics based on urban vs. Rural
Source: Authors' research

Furthermore, in the research sample, there is a fairly balanced ratio of male and female respondents. More precisely, the survey included 51.09% of male respondents and 48.91% of female respondents.
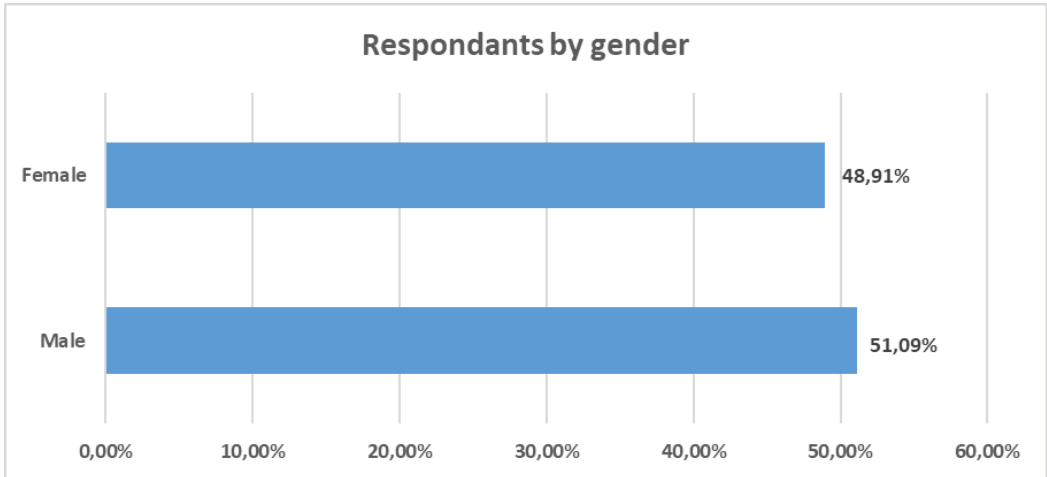
Figure 3. *Respondent demographics based on gender*
Source: Authors' research

According to the respondents' perception, support for the digitization of society and the improvement of citizens' lives is lacking both from political parties (60,89%) at all levels, as well as from the legislative and legal systems (59,01%) and the communications regulatory agency (50,31%). In all three analyzed categories, the average and most common values identified actions that are not in the function of support.
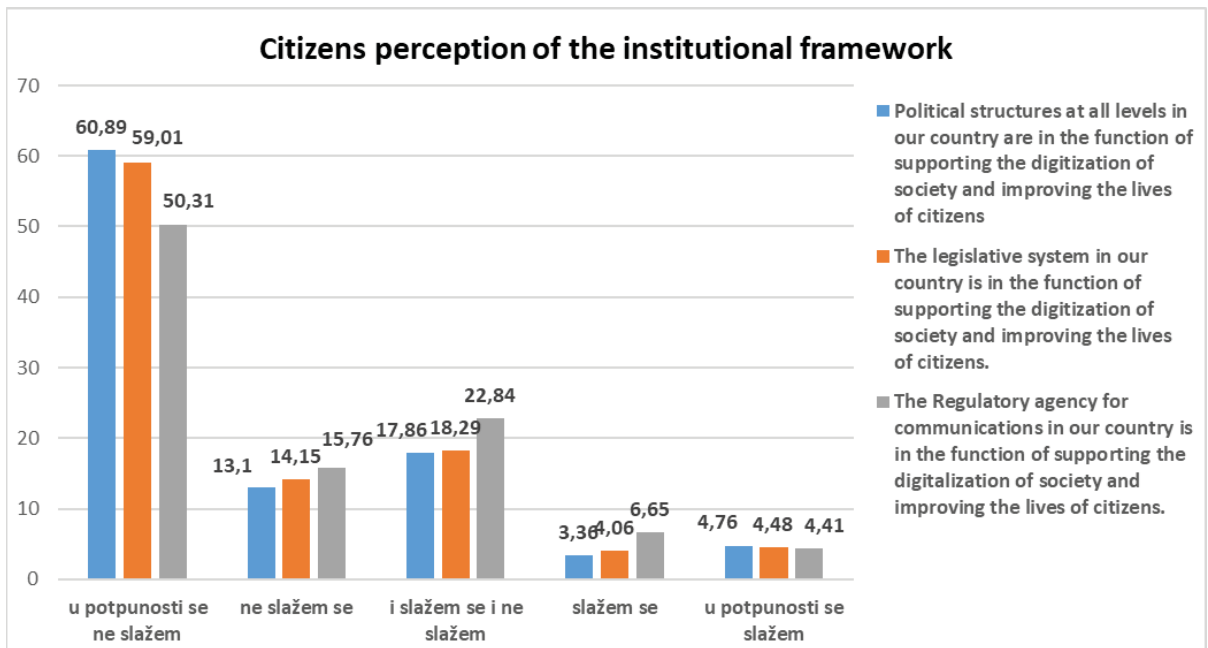
Figure 4. Citizens perception of the institutional framework
Source: Authors' research

When it comes to the distribution of respondents according to the number of users of a fixed Internet connection, 33.71% of respondents use three fixed Internet connections, 22.21% of them use four, 17.17% use two, 11.35% use one, and 3.43% of them have five or more household members. 12.12% of respondents answered without a fixed Internet connection. Three active mobile devices with Internet access in the household are 35.25%, four 22.28%, two 19.83%, one 8.41%, and five or more active mobile devices 6.73% of responses. 7.5% of respondents in the household do not have a single active mobile device with Internet access.

Figure 5. The number of users of a fixed Internet connection and mobile devices with Internet access in the household
Source: Authors' research

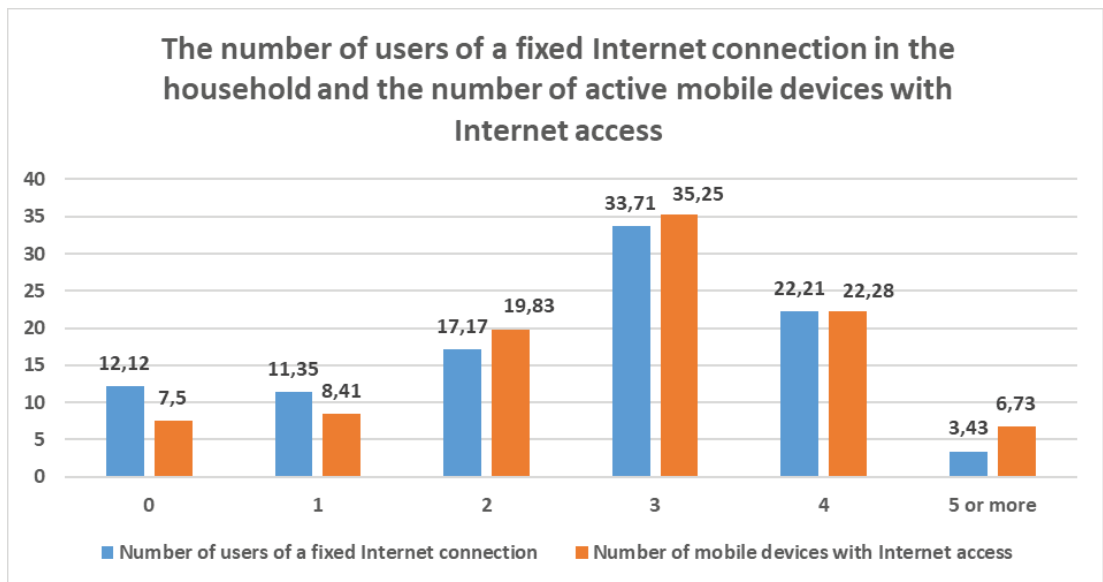Using the Internet implies a certain level of knowledge of the English language, working with computers, mobile phones, tablets, and other devices, knowledge of basic computer applications and communication skills, and general information literacy. For this reason, in one part of the questionnaire, through several questions, the respondents had the opportunity to evaluate their level of knowledge of the listed categories. The assessment was made through the offered five different response modalities: 1-insufficient, 2-sufficient, 3-good, 4-very good, and 5-excellent.

If the average values of the knowledge level are observed, it can be concluded that they range between 3.48 and 3.65, which implies a very good knowledge of the information and communication categories covered by the research. Namely, the respondents rated their knowledge when it comes to using computers and other devices such as mobile phones, tablets, and the like with an average rating of 3.65, knowledge of transferring files from a computer to another device, installing software, and changing software settings with an average rating of 3,60, and knowledge of basic computer applications (creating documents in Word, Excel or PowerPoint) and communication skills such as receiving and sending emails, using social networks, telephone and video calls via the Internet, sharing content on the Internet, and similar, grade 3, 58. Among the observed categories, knowledge of the English language (3.51) and the level of information literacy in terms of creating, moving, and storing documents and files, as well as the ability to find the necessary information on the Internet, which was assessed with an average score of 3.48.
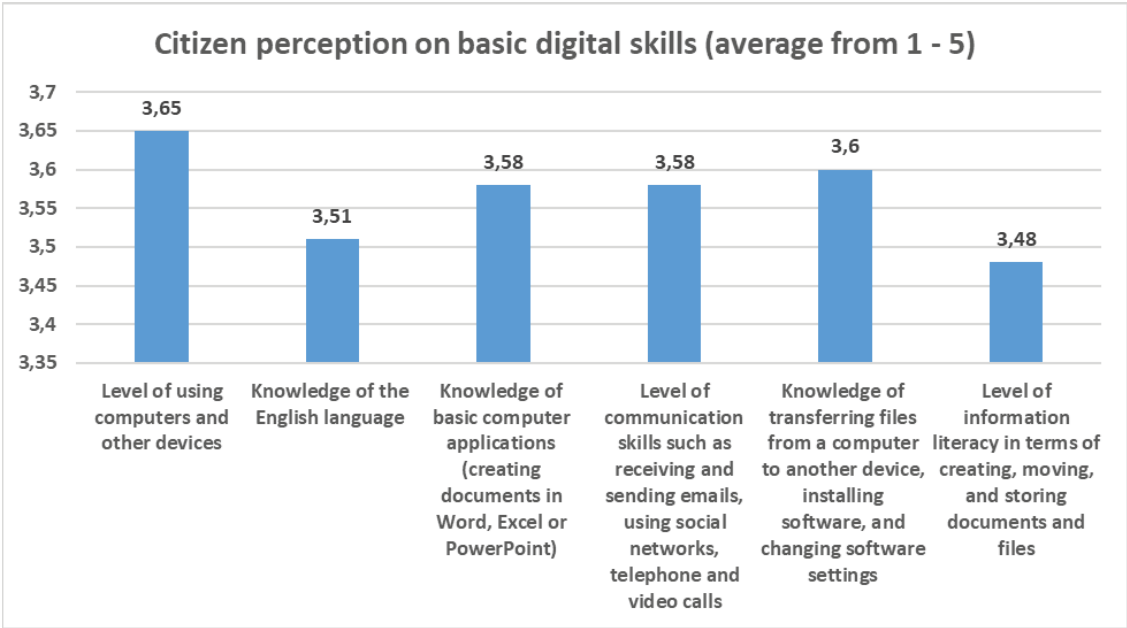
Figure 6. Respondent perception on basic digital skills (average)
Source: Authors' research

The statistical significance of the coefficient of determination shows that the model reaches statistical significance (Sig.=0.000<0.05). Considering the importance of how much the variable in the model contributes to the prediction of the dependent variable, and whether the variable gives a statistically significant unique contribution to the equation, which depends on the significance value of the calculated coefficient. Based on the results of the research, the institutional framework makes a significant unique contribution to the prediction of connectivity as a component of the digital economy, which confirms that there is a statistically significant influence of the determinants of the institutional framework on the connectivity of the population.

By applying the same statistical technique, the second auxiliary hypothesis was tested. The obtained results show the statistical significance of the coefficient of determination and a significant unique contribution to the prediction of the dependent variable. More precisely, the institutional framework makes a significant unique contribution to the prediction of human capital as a component of the digital economy. In other words, there is a statistically significant influence of the determinants of the institutional framework on human capital.

Based on all of the above, in terms of the presented results of individual regression analyses performed between the variable institutional framework and the two second-order variables that define the variable digital economy, the central research hypothesis that the institutional framework significantly affects the determinants of the digital economy among the population is accepted.

CONCLUDING REMARKS

Analyzing the impact of the institutional framework on the Digital economy among the population in Bosnia and Herzegovina, we can conclude that there are certain challenges and shortcomings in supporting the digitalization of society and improving the lives of citizens. The results of the research indicate the great dissatisfaction of the citizens of Bosnia and Herzegovina when it comes to the support of state institutions for digital transformation and investment in information and communication technology (ICT). These shortcomings in the institutional framework limit the progress of the digital economy in the country and make it difficult for citizens to take full advantage of digital technologies.

Despite these challenges, there are positive indications of progress in digital inclusion. A significant proportion of households have access to fixed internet connections, and citizens possess basic digital skills. These advancements suggest that the digital divide is gradually narrowing, paving the way for broader participation in the digital economy. Also, citizens positively evaluated their basic digital skills, such as knowledge of basic computer applications, communication skills, ability to transfer files, and information literacy. These results indicate some progress in the digital inclusion of the population.

The research emphasizes the importance of measuring and analyzing the attitudes and perceptions of the population concerning the digital economy. Education and raising awareness of the benefits of the digital economy can help overcome resistance and acceptance of new technologies. It is also important to involve the population in decision-making processes and to consult them when shaping regulatory policies and initiatives. the impact of the institutional framework on the digital economy in Bosnia and Herzegovina requires careful planning, the construction of a favorable environment, and cooperation between the government, business entities, and the population. It is necessary to focus on solving the gaps and challenges in supporting digitization, investing in ICT infrastructure, and strengthening the digital skills of the population. Only through the coordinated efforts of institutions and the engagement of all relevant stakeholders can citizens be provided with a better standard of living and the full potential of the digital economy can be realized.

The presented research paper provides insight into the key factors that should be considered when shaping the institutional framework to support the digital economy in Bosnia and Herzegovina and identifies guidelines for further improvement of the digital sector in the country. By highlighting the significant influence of this framework, the research provides insights for policymakers and stakeholders as they strive to create a more supportive and enabling environment for digital transformation and economic growth.Given that digital technologies are constantly advancing and enabling new solutions, it is recommended that the same or similar research be carried out every

two years. Also, it is necessary to include other users such as the business sector, non-governmental organizations, faculties, and other institutions in the research samples.

According to the available researches, this research serves as the first in-depth analysis of the institutional framework's influence on the digital economy in Bosnia and Herzegovina, highlighting the significant impact of this framework on the nation's digital landscape. Based on the presented research results, it can be concluded that the institutional framework plays a critical role in shaping the digital economy and improving the lives of citizens in Bosnia and Herzegovina. Addressing the identified challenges and shortcomings while fostering stakeholder engagement and continuous evaluation will be essential for realizing the full potential of the digital economy in Bosnia and Herzegovina.

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MANAGEMENT AND ENTREPRENEURSHIP / MENADŽMENT I UPRAVLJANJE

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THE TOURISM POTENTIAL AND EFFECTIVE MANAGEMENT OF RURAL HERITAGE ASSETS THROUGH THEME ROUTES

ABSTRACT

Hungary's rich rural heritage values include traditional local products, handicrafts, terroir products, "Hungaricums". However, these products are not only about preserving values and exploiting them for economic purposes, but also about adding high intellectual capital, community collaboration or environmental awareness raising, social responsibility or even education for sustainability. These key issues can be further enhanced by theme routeism routes based on local heritage values. The development of heritage in tourism is also increasingly becoming an economic interest. The past, which cannot be erased from human memory, is also a resource that is constantly renewed. The development of tourism is one of the dimensions of better exploitation of the natural, historical, cultural, architectural, economic and agricultural heritage accumulated in the Carpathian Basin, as well as of the economic capacity to produce local products. The development of theme routeism routes is a good practice which has proved successful in several places. In recent years, the process of value creation has involved, and in many cases coordinated, the activities of local communities. Experience both at home and abroad has shown that the exploitation of local values in the community and in tourism has led to a number of good practices, the regeneration of communities and the development of the local economy.

Keywords: rural heritage, theme routes, local products

JEL: Z31, Z32

1. INTRODUCTION

Today, tourism has become the most important socio-economic sector in the world. It is also important to note that one in eleven jobs is linked to tourism. If we take the UNWTO's forecast for 2030 of 1.8 billion international arrivals, we can see that the growth of tourism is a seemingly inexorable process, driven by human needs. However, most of this development is not the result of spontaneous processes but of conscious planning and development. Only through these can the impact of tourism be optimised (Gonda, 2022).

Within the potential areas for tourism development, the focus is constantly changing, in line with demand expectations and current trends in tourism. From the point of view of our subject, it is fortunate that the focus is nowadays on linking up smaller, scattered attractions, developing them into theme routes and thus creating more powerful attractions. In addition to the traditional mass tourism destinations, there is a growing potential for integrating rural areas into the tourism supply. The transparency coming from globalisation and technological progress (Internet) is making it possible to compare prices and quality in tourism worldwide.

Today's people expect high quality also with stable or even decreasing prices, so considering high quality services tailored to the customer in tourism product development is an incentive to increase

the number of new guests and helps to retain regular customers. In the analysis of tourism motivations, there are several classifications, but almost all of them include gastronomy in some form, or in other words, culinary delights, which are becoming increasingly important for theme routes, whether they are the main purpose of the trip or just a pleasant side effect (Piskóti & Nagy, 2011). Locally produced food, consumed in a traditional way and in an authentic environment, meets the expectations of a sustainable food culture. The expectations of tourists visiting gastronomic theme routes include the possibility of experiencing the product in person, the presence of the producer or farmer, or personal participation in a stage of the product's life cycle (harvest, cooking classes, tasting), the consumption of visual experiences, the experience of fresh flavours, or even the reliving of tastes reminiscent of childhood (Piskóti et al., 2023). In the present study, we will also discuss the importance of theme routes based on gastronomic heritage in Germany.

2. DEVELOPING A REAL ATTRACTION OUT OF MULTIPLE POINTS OF INTEREST

There are a number of factors that influence tourism, which local authorities need to be aware of when making tourism plans. A fundamental trend is that more and more tourists want to experience recreation or sports, to learn more about the history, culture, heritage and natural environment of the area they visit (Csapó et al., 2022). There is a growing focus on local products and traditional local gastronomy (Csóka & Angler, 2021).

Ecotourism, with its focus on sustainability, has become hugely popular. Many tourists are looking for new destinations and new types of tourism products. More and more people are becoming sensitive to the environment and want to visit places that are well designed and where tourism is not an environmental or social problem. Modern and conscious tourism development must take these aspects into account. Making them work is not always easy or straightforward. Consider the development of theme parks, which attract millions of visitors, have huge energy requirements and generate a very significant volume of motorised traffic. Today's tourists, on the other hand, have an unprecedented wealth of choice. The main aim of attraction development and the creation of new attractions is therefore to cross the stimulation threshold of potential consumers and to act as a real tourist attraction. This objective can be well achieved by developing theme routes.

2.1.   Theme routes

Theme routes actually date back to antiquity, with the development of early tourism giving rise to several "cultural theme routes". Among them, the pilgrimage routes stand out and were the most important theme routes also in the Middle Ages. New Era, it became common for the nobility, and later the bourgeoisie, to visit the famous destinations of Western Europe as part of a cultural tour (Grand Tour). In the first half of the last century, with the popularisation of active tourism, hiking tours were set up throughout Europe (e.g. the Blue Hiking Trail in Hungary). Wine routes were also created in the first half of the 20th century, first in Germany and then in more and more European countries. They have been present in Hungary since 1995.

The best-known theme routes are also the initiators of a number of tourism and marketing innovations (Máté & Bayerle, 2021). The first officially recognised cultural route was the Route of St James of Santiago de Compostela, which was declared a theme route by the Council of Europe in 1987 (when the European Institute of Cultural Routes was also created in Luxembourg). The theme routes, which are now considered the most popular, were established in the 1990s, but their attendance has only been growing rapidly since the early 2000s. Popular among these are film tourism routes (the first was Sex and the City in 1999, but the locations of the Lord of the Rings films also attract many tourists), cultural routes (for example, the Loire Chateaux Trail) and geotourism routes (the Geopark network was created in 1997). There are also routes based on local gastronomy (Gonda et al., 2021a). In addition to wine routes, there are theme routes based on traditional local products: asparagus route, plum route, cheese route, or route to the Transylvanian mineral water springs. The ethnographically oriented routes presenting specific ethnic groups (such

as the Palóc Route, created in 2005) too are based on rural cultural heritage values. In addition to routes that trace the life stories of famous people (the Liszt Ferenc theme route), routes that showcase traditional crafts (Deutsche Fachwerk Straße) are also very popular and have a positive impact on creative tourism in rural areas (Lőrincz et al., 2023; Lőrincz & Csapó, 2023).

The theme routes link tourist destinations, which can be natural or artificial attractions, newly invented products or relaunch products, or physically or "only" mentally existing elements, which, once strung together on a thread and drawn on a map, become visible as a "theme route" product. There are several definitions for "theme route", each of which defines its meaning in different ways: "The theme routes are a series of natural and man-made attractions around a theme, accessible by different forms of transport. The itineraries offer a combination of learning, entertainment and recreation, while respecting the principles of sustainability." (Puczkó & Rátz, 2000).

"Theme routes are integrated, environmentally sensitive, sustainable and relevant interpretations of a theme, offered through the development of services and marketing activities, taking into account visitor and local needs and environmental aspects, with positive economic, social and cultural impacts." (Silbergh et al., 1994)

In 1996, the ADAC (German Automobile Club) and the DTV (German Tourist Association) jointly formulated the meaning of a German theme route: "A tourist route is a permanently and precisely defined section of road on the national and regional roads of the Federation and the Land which offers the traveller special attractions that can be thematically defined. It serves, among other things, to make the circumscribed route more marketable to tourists." (DTV 2021)

The theme route aims to create a chain of experiences by connecting existing point values. In designing the development, special attention should be paid to consumer expectations and to the different possibilities for social innovation (Nagy, 2021). Whatever the theme route is based on, it will build on locally produced traditional food products (Csóka & Gonda, 2023) and local products with gastro-cultural heritage values (Gonda et al., 2022b) in order to ensure authenticity and uniqueness.

2.2. *Focused attraction development versus theme route development*

We believe that the development of theme routes is better suited to the principles of modern, sustainable and responsible tourism. The two different types of development are assessed on the basis of ten criteria (Table 1).

Table 1: Comparison of the overall impacts of concentrated attraction development and theme routes

Environmental impacts		
	Concentrated attraction development	**Theme route**
1. Transport	It generates a large concentrated traffic.	Diverts traffic, seeks alternative solutions (e.g. Greenway).
2. Energy demand	Significant new capacity is used.	No new capacity is needed.
3. Capital demand	Significant. Requires external funding.	Not significant, local people can also get involved.
Economic impacts		
1. Tourism indicators (e.g. guest nights)	Significant impact, mostly new accommodation capacity is also built.	The impact is significant but difficult to measure because tourists are dispersed throughout the space.
2. Local population	It does not have a big impact.	The economic benefits are

	Investors benefit. Decision-making positions are outside the region.	realised by local residents. Decisions are made locally.
3. Involving local products and services	Not typical. Sourced from a globalised market.	Typical. They can sell local products and services at good prices.
4. Employment impact	Jobs for local people, but many "guest workers".	It fully supports the retention of local jobs and generates new ones.
Social impacts		
1. Value creation, value preservation	No. If it goes out of fashion, it could even become an environmental problem.	It makes a significant contribution to the identification, conservation and development of rural heritage assets.
2. Social cohesion	No such effect.	It strengthens social cohesion, and in many cases formalised civil society organisations are created. It strengthens local identity.
3. Training, educational, cultural impact	No or weak.	It promotes the preservation of traditional knowledge, skills and traditions.

Source: own editing

It is clear from the above comparative analysis that, both in terms of the implementation of sustainable development principles and the achievement of rural development objectives, the development of a theme route is considered a more effective tool than the development of a concentrated tourist attraction.

2.3.   *The impact of major tourism trends on the development of theme routes*

Local authorities, the organisations responsible for developments, need to be aware of key international tourism trends so that their tourism development plans meet the current and future expectations of tourists and can serve the sustainability of tourism.
Among the important quality trends, we highlight the following:

- More and more tourists are looking for fun, sport and adventure, wanting to know more about the history, natural and wildlife of the area they are visiting. Today, tourists are more active physically and mentally than ever before. The need for mental and physical activity must therefore be taken into account when designing theme routes.
- More and more tourists are looking to satisfy their special interest, to practice their hobby. There are many types of special interest tourism, based on nature and wildlife, historical sites, cultural models, economic activities and professional interests. When developing theme routes, it is logical to consider opening up to possible large hobby groups (e.g. hiking tourists, birdwatchers, nature photographers, cyclists, anglers, gastronomy enthusiasts, etc.).
- In many places, "back to the roots" motivated and nostalgia tourism, where tourists visit their ancestral homeland or homeland of their ancestors, is becoming important.
- Religious tourism by visitors to holy sites remains significant. In addition to the more popular pilgrimage sites that generate mass tourism, there is a growing demand for newly developed,

less popular pilgrimage routes. Pilgrimage routes should also integrate local cultural values to create a more complex thematic itinerary.

- More and more tourists are looking for new destinations and new tourism products. This offers many opportunities to develop new tourist areas and to include areas that have been neglected by tourism so far.
- More and more tourists are trying to maintain and improve their health, and there is a big development in spas and baths. Traditional hotels and resorts are also installing exercise equipment. There is renewed interest in traditional therapies. In this context, the value of a healthy, clean environment and areas free of allergenic plants is increasing.
- Many tourists go on holiday several times a year, but for shorter periods. This allows for the development of more tourist destinations and for destinations to offer services and activities to tourists in all seasons. For this reason, theme routes should also be designed in terms of four seasons.
- As life expectancy increases, more and more older but active people, including many wealthy pensioners, are travelling. Disabled people and other people with disabilities are also travelling in greater numbers as tourists, and many services and facilities are designed for them.
- Tourists are becoming more sophisticated and demanding in their travel habits, looking for good quality attractions, accommodation and services for their money, and value for money.
- There is an increasing number of environmentally and socially sensitive tourists who are seeking well-designed and less polluted destinations, avoiding poorly designed destinations that are struggling with environmental and social problems. They do not want to increase their ecological footprint during their stay, either, and are happy to see the local population benefit from the tourism they generate.
- With the increasing share of the elderly in the population, the demand for accessible tourism is growing (Farkas-Raffay 2023). Therefore, accessibility is playing an increasingly important role in the development efforts of destinations (Farkas et al. 2023).
- More and more tourist destinations are embracing a planned and managed approach to tourism development, aiming to develop high quality tourism that does not create environmental and economic problems and optimises economic benefits. Theme route development is an obvious tool to achieve this.

It has become an important trend that the development of tourism in a given area also serves to preserve the natural environment, historical sites and cultural traditions. In many places, ecotourism (controlled nature tourism) and cultural tourism are being developed with the aim of promoting the conservation of values. This is particularly important in areas with limited resources for conservation programmes.

It is also an international trend that, while the commercial services of tourism are provided by the private sector, governments at all levels remain responsible for the overall management of tourism. In this way they can achieve national, regional and local environmental and socio-economic objectives.

The development of the local economy, in particular the promotion of the production and sale of local products and services, is an essential element of almost all projects, as is marketing for this activity. Many projects pay particular attention to promoting entrepreneurship and the acquisition of entrepreneurial skills.

Tourism, recreation and various active pastimes in rural areas offer opportunities for economic diversification. Agricultural work, traditional festivals and events provide opportunities to participate in various active and passive tourism activities. The forms of tourism most to be promoted are those that alleviate the seasonality that exists in many places.

Learning and training is a priority activity in a significant part of the projects, either in a traditional form, enhancing the knowledge of pupils and students in 12-class school education, but more often

using traditional or newer, more innovative forms of training for specific target groups (local entrepreneurs, communities).

The survival of rural areas in a globalising world often depends on the preservation of local identities, the maintenance and, where possible, strengthening of which is an essential element of many projects. This can be achieved through joint thinking, by setting and implementing common goals, and can ensure the quality of life and competitiveness of rural areas in the longer term, by creating a new quality of life and a new model of life in an increasingly globalised and urbanised world. The key to this process is networking, i.e. a series of actions by different actors – local authorities, businesses, NGOs, individuals – working together towards common objectives.

In a multicultural environment, the integration of different cultures can be a source of development, but the dichotomy between modernity and tradition that can be found in some places, especially near metropolitan agglomerations, can also be a particular strength.

2.4.   *The role of rural heritage values in the development of theme routes in Germany*

Over the past 2 years, 151 theme routes have been studied using website analysis and qualitative observation based on personal visits. The study was complemented by personal interviews with experts. The theme routes identified were classified according to the date of their creation and their themes.

It can be observed that most of them came into being between 1990 and 2010. The oldest of these is the Deutsche Alpenstraße (German Alpine Road), which was established in 1927 and has been developing steadily ever since. Unfortunately, the exact year of establishment of several routes is not known or there is conflicting information. Several of them are known to have been slowly established in the public consciousness as "what has always been there, existed", and then, at some point, became institutionalised.

According to their typology, tourism theory has several groupings, but almost all of them devote a separate category to gastronomic or Lucullus feast pleasures:

FREYER (2015) divided theme routes into four groups, based on their main attraction:

1. Landscape,
2. Culture and history,
3. Lucullus feasts,
4. Other.

The Tourism Barometer (Tourism Sentiment Report) used the following three groupings in its 2008 annual report:

1. Landscape experience,
2. Culture and history,
3. Culinary experiences.

Twenty-nine active gastronomic theme routes were selected from the German theme routes. In addition to the culinary theme, there are of course other attractions on offer, so travellers can decide whether they want to devote their trip exclusively to culinary delights or visit other attractions in the destination with less or more intensity.

Table 2: Thematic gastronomic itineraries examined in the study

Ahr-Rotweinstraße	Niedersächs. Spargelstr.
Aischgründer Bierstraße	Oberfränkische Bierstraße
Allgäuer Käsestraße	Obstmarschenweg
Badische Spargelstraße	Route der Genüsse
Badische Weinstraße	Römische Weinstraße
Beelitzer Spargelstraße e. V.	Ruwer-Riesling-Weinstraße
Bier- und Burgenstraße	Saar-Riesling-Straße
Bocksbeutelstraße	Sächsische Weinstraße
Deutsche Hopfenstraße	Schwäbische Weinstraße

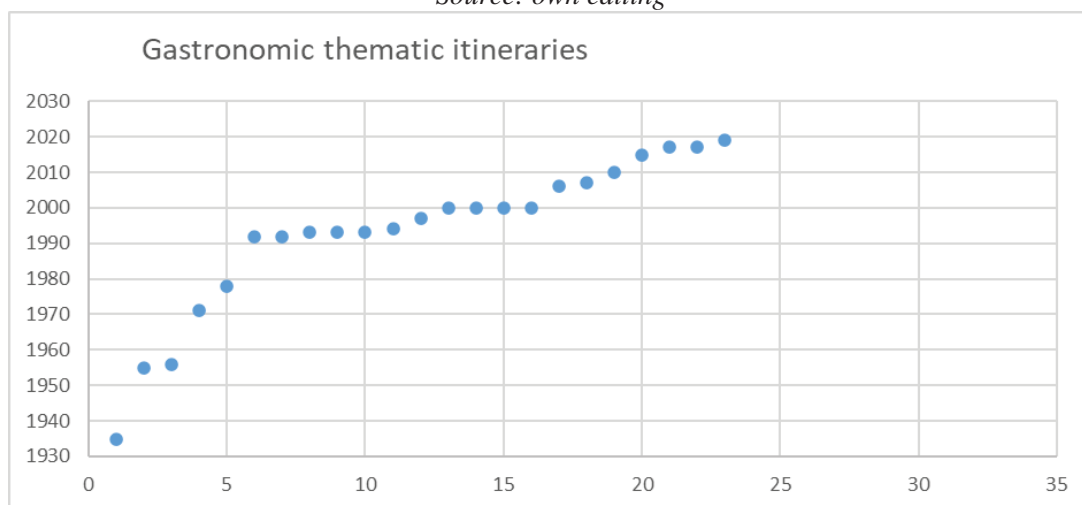|	
Deutsche Kohlstraße	Spargelstraße NRW
Deutsche Weinstraße	Weinstraße Kraichgau-Stromberg
Käsestraße Schleswig Holstein e.V.	Weinstraße Saale-Unstrut
Moselweinstraße	Weinstraße Taubertal
Naheweinstraße	Württemberger Weinstraße
Niedersächsische Milchstraße	

Source: own editing

Figure 1: The twenty-nine gastronomic theme routes grouped by year of creation
Source: own editing, n=29 (no data on year of foundation in 7 cases)

The growth of gastronomy-theme routes has accelerated since the 1990s (Figure 1). Of the twenty-nine gastronomy-theme routes, 7 were created between 1930 and 1989, with a significant number of them made between 1990 and 2019. No change was observed in the "wine routes" category, the most significant of which were created before 1990. The municipalities included in the wine routes have significant development potential and create opportunities for networked, area-wide tourism development: cycle paths, ecotourism routes, nature walks.

RECOMMENDATIONS, CONCLUSIONS

Tourists visit a rural area for its attractions. Attractions need to be carefully planned, implemented and managed if they are to succeed. Creative presentation that is informative and interesting and, where possible, novel for visitors is particularly important. The emphasis is deliberately placed on creativity. This does not equate to expensive installations or large-scale investments. After all, in many cases, the revival and tourist exploitation of a forgotten heritage (whether gastronomic or handicraft) can be a pleasant experience for tourists (MINORICS 2013). Most types of rural attractions are now designed to preserve and present the environmental and cultural heritage of the area, for both locals and tourists (MÁTÉ – ANGLER 2021). The design of heritage and natural attractions (natural parks, archaeological and historical sites, cultural traditions) for tourism is a profession in its own right, requiring great creativity and a holistic vision. It requires a well-developed culture of cooperation and trust (DOMOSZLAI et al. 2023). However, there are general approaches and principles that apply to most of them. Analysing the good practices identified during the project, the following recommendations are made:

- **Creating coherence between developments**. Taking into account all residential and other developments in the area that may be even indirectly linked to tourism and considering their

relationship with the planned theme route. In doing so, it should seek to involve local residents and ensure that they are given a share from the benefits of tourism.

- Determining the proportion of **development and conservation objectives**, taking into account national, regional and local policies for the conservation of nature and monuments and other tourism-related strategies.
- An **environmental analysis is required**, including any special surveys to be carried out, such as those of fauna, vulnerable ecosystems and archaeological or historic monuments, and the identification of special environmental areas and sites to be preserved and, in some cases, developed or restored.
- Theme routes should be designed with a strong emphasis on the **preservation of environmental values, the protection of biodiversity** and the promotion of environmental education. Particular care should be taken to protect and conserve flora and fauna and archaeological and historical sites.
- It is **important to establish the carrying capacity**, based on assumptions about the types of visitor use and effective visitor organisation and flow models.
- It is **necessary to formulate an attraction plan**, including the preparation and evaluation of alternative plans, the selection of the final, optimal plan, and the timing of the proposed development. As much attention as possible should be paid to the principles of environmental design and conservation measures, and to the choice of the right interpretive tools (these should not be expensive and complicated, but practical and creative).
- Even after the creation of the theme route, a **final analysis of the environmental, including social impacts,** is necessary, and the necessary modifications to the plan should be made.
- **Identify** the most appropriate **organisational form** for managing the attraction, including the necessary training of future staff.
- **Economic and financial analysis**, with estimates of development and operating costs and projected revenues. Particular attention should be paid to the benefits for local residents, labour requirements, local income, development of small tourism businesses and the social benefits of the project.
- **A marketing plan** must be made. Community marketing (municipality, TDM, district, etc.) can be used to continuously increase the visibility of the theme route.
- It is proposed to **organise regular training sessions for local residents** in connection with a theme route. This will strengthen their attachment to tourism and broaden the social embeddedness of the project, and the training could also help them to become involved as service providers in the expansion of the offer.

We are convinced that the above principles can be followed in the development of a theme route to optimise its tourism and rural and regional development benefits, and to use rural heritage values effectively for tourism development.

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THE SITUATION OF ACCESSIBLE TOURISM IN HUNGARY IN THE LIGHT OF THE LITERATURE

ABSTRACT

In Hungary, accessible tourism has been an under-researched area of tourism research for a long time. Only in the last few years has this changed, with a few researchers becoming interested in the scrutiny of this topic. The authors therefore present the Hungarian focus of research on this issue by reviewing the Hungarian literature. In order to provide a more complex understanding of accessible tourism, the authors also present the most relevant international literature in addition to the Hungarian research results. The issue of accessible tourism concerns at least 10% of the European population. So, beyond the social and societal importance of the issue, it is not a negligible number from a market point of view, either. Understanding the expectations and specific consumer habits of the stakeholders is essential to develop an appropriate offer and to ensure equal access to services. Recognising this, the last few years have seen a significant increase in research interest and a proliferation of articles on accessible tourism.

Keywords: accessible tourism, disability, technical accessibility, research

JEL: Z31, Z32, L80

INTRODUCTION

Most people take living without barriers for granted. In fact, some estimates suggest that around 10% of the European population is affected by a disability. In developed countries, accessibility is also receiving increasing attention in the organisation of the tourism supply, partly out of humanity and partly in recognition of the significant business potential. In the most general terms, accessible tourism is tourism that is equally accessible to all, including people with disabilities, people who are temporary disabled, elderly people, people with young children and multi-generational families. Accordingly, the main areas of analysis of equal access are the same as the main areas of the supply side of tourism, namely: accommodation; hospitality; tourist attractions; transport; and communication. Of these, the literature is perhaps most concerned with the accessibility of attractions, probably in the context of the fact that a significant proportion of attractions are state-owned public facilities (Csesznák et al., 2009, p. 82; Káldy, 2010, p. 5).

Defining the target group for accessible tourism is also a problem. In many cases, the public does not even include in the target group those who, due to their life situation, are members of the target group for a shorter or longer period of time: e.g. pregnant women, people with temporary disabilities recovering after a surgery, or the elderly. The proportion of the elderly in the overall population is steadily increasing, and many forms of technical accessibility are becoming an essential need for them. Many of us therefore live with a permanent or temporary disability which can be a barrier to their lives and a barrier to their journeys. In fact, "accessible tourism is a *continuous effort to* ensure that all destinations, tourism products and services are accessible to all people, regardless of any physical limitation, disability or age, and whether they are private or public tourist sites" (Accessible Tourism, 2017).

At the level of declarations, accessibility is no longer an issue, but the reality is different. This is confirmed by the results of a research carried out in the framework of the international project called Peer Act. When exploring the relationship between people with disabilities and tourism, it should always be borne in mind that different disabled visitors have different specific needs. For them, however, technical accessibility is essential, as in many cases ignoring their specific needs can make it impossible for them to participate actively in tourism. Today, in Hungary, the tourism opportunities, habits and needs of people with disabilities show significant differences in some respects compared to the general population.

LITERATURE REVIEW

Defining disability is not an easy task, as it takes many forms. "We can include not only people with limited mobility, visual and hearing impairments, intellectual disabilities, but also those who suffer from other conditions that have a long-term impact on their quality of life, such as allergies" (Zsarnóczky, 2018a, p. 39). According to WHO estimates, *every 6th person on Earth* suffers from some kind of disability, and this number is continuously increasing (WHO 2011). The Convention on the Rights of Persons with Disabilities, adopted by the United Nations in 2006 and also proclaimed in Hungary, obliges States Parties to ensure access for persons with disabilities to sport, recreation and tourism facilities and services (Act XCII of 2007). Any of us can be concerned by this issue, if not for any other reason, because of the progress of our age. This is why the problem has taken on particular importance today in the context of ageing societies. Special needs in older age are common to all, but there are also many other life situations that may give rise to special needs: e.g. people undergoing rehabilitation after an accident, families with young children (Darcy & Dickson, 2009, p. 33).

The United Nations World Tourism Organisation (UNTWO) is committed to promoting accessible tourism. In this spirit, it has dedicated World Tourism Day 2016 to this theme. The organisation has made a number of recommendations and published a handbook on the issue (UNWTO, 2016).

Accessibility has been the subject of many efforts throughout human history. It became a widely recognised social issue in the second half of the 20th century. It is now widely accepted that everyone, despite a disability, should be able to enjoy the pleasures of travel as much as anyone else, "since the enjoyment of the fullness of life is a right for all" (Végh, 2005, p. 31). The European Parliament's resolution of 29 October 2015 on European Strategy for the Future and the Challenges of European Tourism emphasises the importance of developing sustainable, responsible and accessible tourism; the principle of "tourism for all"; and that full accessibility and affordability of tourism are key elements for the sustainability of the sector. It proposes that Member States develop a Europe-wide, uniform and transparent labelling scheme for accessible offers and that they make accessibility a criterion for support in the context of economic support programmes for the tourism sector.

At the regulatory level, Hungary is not lagging behind other EU countries. According to Act XXVI of 1998, persons with disabilities have the right to an accessible, perceptible and safe built environment. They must be able to visit cultural, educational and sports facilities and to use transport systems and means of transport safely. The new National Disability Programme (2015-2025), adopted in 2015, noted that service providers had not yet recognised the tourism opportunities for people with disabilities. It is therefore important to update existing tourism demand surveys and disseminate them within the tourism profession, as well as to train and sensitise service providers and staff. It stresses the need to apply the principle of universal design. The aim is to encourage the operation of tourism packages for people with disabilities, with a complex accessibility objective. The Programme emphasises the development of accessible websites and accessible electronic services.

According to HCSO (Hungarian Central Statistical Office, 2016), there are 408.021 people with disabilities in Hungary. The breakdown by type of disability is shown in Figure 1. In our opinion, the population affected by accessible tourism may be much larger, as it can be assumed that an

elderly person in good health would not classify him/herself as disabled, but would already require access to accessible facilities when using tourism services.
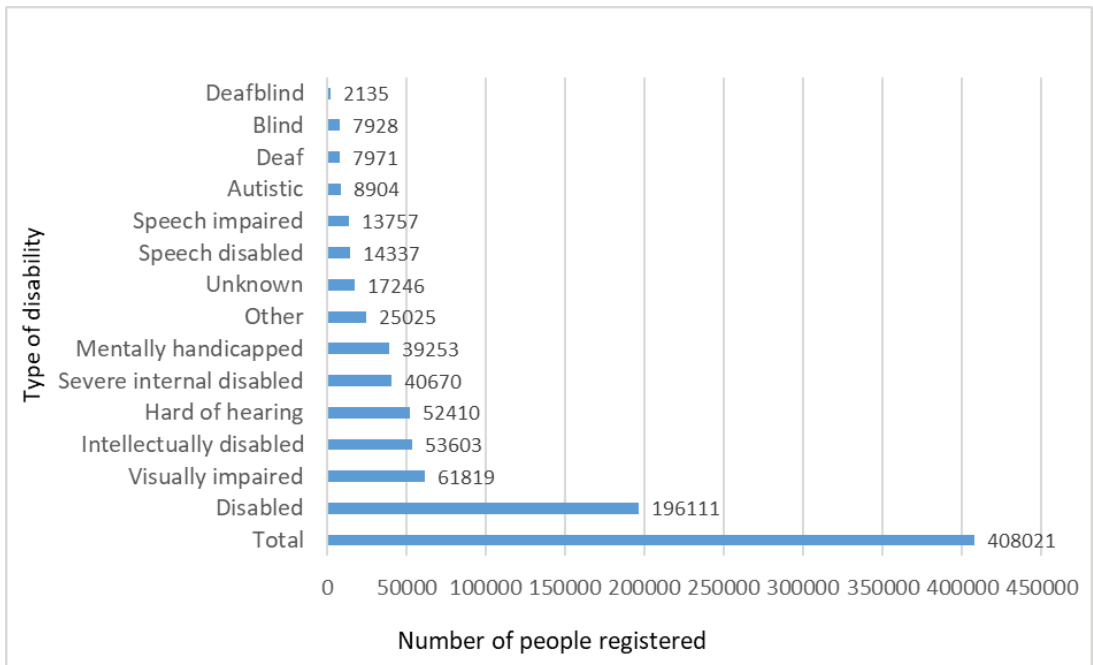

Figure 1: Number of people with disabilities in Hungary by type of disability
Source: own editing based on HCSO 2016

As tourism has become a social phenomenon, it has also become an important factor in shaping quality of life (Gonda et al., 2019, p. 1791). Today, it is fortunately accepted that facilitating travel for people with disabilities and providing the necessary physical conditions is not only a human, ethical, moral and legal obligation, but also an important economic issue. At present, this represents an untapped niche in the tourism market, although there have been many positive counter-examples in the recent past (Buhalis et al., 2012). However, this untapped market segment should not be seen as a homogeneous group, as they have different specific needs for services depending on the type and extent of their disability. There are barriers that may affect all travellers and barriers that are insurmountable problems for certain narrow segments, only (Shaw & Coles, 2004, p. 398).

Different tourist destinations have reached different levels of accessibility. Some destinations are developing special offers for people with disabilities, others are making accessibility a distinctive feature – recognising the market opportunity it represents. Unfortunately, there are still places that do not address this issue at all.

The major European countries in the international tourist flows are clearly placing great emphasis on this issue. Thus, the efforts of Spain (Vila, Darcy & González, 2015, p. 261) and Italy (Agovino et al., 2017, p. 59) in the field of tourist accessibility deserve special mention. In our personal experience, the situation in Germany is significantly better than in Hungary; in Germany correct solutions for accessibility and equal accessibility in all areas of life (including transport, which is of particular importance for tourism) are in place. The implementation of accessible tourism is not the same as physical accessibility. The experience provided by an accessible destination is much more than that: it is the realisation of the principles of independence, equality and human dignity while enjoying the tourism experience. Experiencing the spirit of place is as important for people with disabilities as it is for anyone else.

It is generally accepted that the experience of travelling and holidays enhances subjective happiness (Csapó et al., 2018, p. 115). This is particularly true for people with disabilities. For them and their family members, the joy of travelling offers the possibility of escaping from difficult and often trying everyday life. In many cases, travel is a celebration for them, and the experiences help them to make contacts and integrate more easily into society (Gálné Kucsák, 2008, p. 54). Several empirical studies in Hungary have shown that *people with disabilities face significant problems* when travelling and that their disability hinders them in realising their travel plans. This is why many of them choose to 'not travel' (Csapó & Gonda, 2019, p. 59, Csapó, Törőcsik & Nagy, 2019, p. 14). Half of disabled people with reduced mobility have a disability that prevents them from participating in a tourism programme, and 75% of visually impaired people have the same problem (Motivation Foundation and Revita Foundation Research Workshop, 2009). Providing a high standard of service to disabled guests requires empathy and attention from tourism industry stakeholders.

Early stage of accessible tourism research in Hungary (1990-2020)

From the last decade of the 20th century we cannot find any study dealing specifically with accessible tourism, and it was only at the end of the first two decades of our century that Hungarian researchers started to deal with this issue more intensively. In 2004, a short study entitled "Tourism opportunities for people with disabilities in Hungary" was published in the pages of the periodical Turizmus Bulletin, i-.e. Tourism Bulletin (Végh, 2005, p. 26), in which the author makes statements that are still valid today, ranging from the (unfortunately still) unfavourable situation of people with disabilities in Hungary to the fact that their travel needs are basically no different from those of their 'healthy' counterparts. She analyses the needs and problems of those involved in "paraturism" in the areas of transport, accommodation, spas and animators. Also published in the Turizmus Bulletin is a study by Gálné Kucsák on the situation and opportunities for visually impaired people in tourism in Hungary (Gálné Kucsák, 2008, p. 55), in which she explains that while more and more places are becoming accessible for the disabled, when thinking about accessibility we tend to forget the visually impaired, perhaps because they are a less "conspicuous" target group, whose vulnerability is a major deterrent to both everyday and leisure travel. The author underlines the positive (happy) impact of tourism in improving the quality of life of those concerned. For the visually impaired, the study reveals for the first time the problem of accessible tourism in Hungary and points out the directions for essential improvements. The author emphasises the positive (beatific) impact of travel on the quality of life of the people concerned. The study is the first of its kind to explore the issue of accessible tourism for visually impaired to be realised in Hungary, pointing out directions of the inevitable development. It examines the accessibility of tourism products in terms of accessible transport and tourist superstructure, and analyses the opportunities for visually impaired visitors in active, cultural and health tourism. The study concludes that the main reason why visually impaired people are not offered accessible tourism is the lack of information. One year later, in 2009, Csesznák and co-authors in their paper entitled 'Ensuring fuller access for people with disabilities,' published by the Szentendre Ethnographic Museum, edited by the Centre for Museum Education and Training, discuss the problems of accessibility in a specific area, namely museums (Csesznák et al., 2009). The study describes professional cooperation between institutions for people with disabilities and museums in order to create equal opportunities.
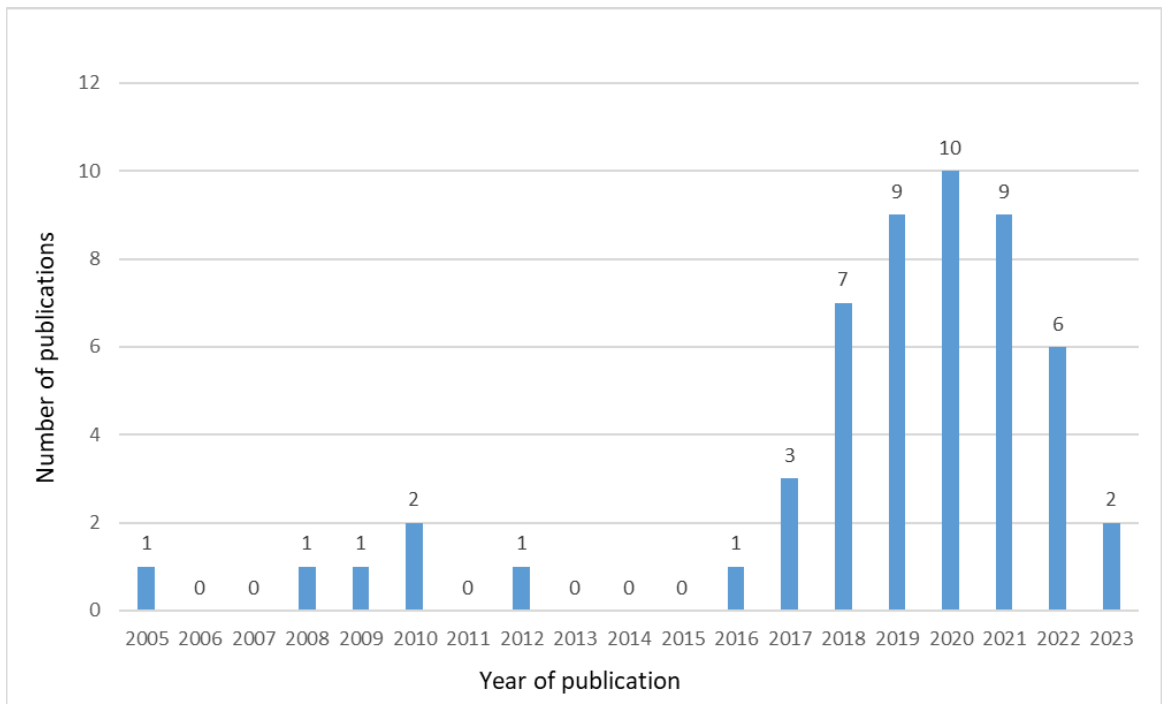
Figure 2: Annual distribution of the number of publications on accessible tourism in Hungary
Source: own editing

In the 2010s, especially since 2016 the number of articles on the subject has been increasing (Figure 2). Among them we can find a book (tangentially) dealing with the issue: Beatific travel – Hungrian aspects of the relation of tourism and quality of life (Michalkó, 2010); a book (book chapter) written as a research summary: Accessible Tourism in some European countries – findings and results of an empirical survey, Peer-AcT Project (Raffay & Gonda, 2020); The Primacy of Technical accessibility in tourism product development (Farkas, 2019); doctoral theses: Performance sport for people with disabilities and its impact on different sport arenas (Dorogi, 2012); Special needs in tourism – the place, role and potential of people with disabilities in the tourism sector (Gondos, 2020); The potential for fulfilment in existential disability – Insights into the meaning of the concept (Farkas, 2020); The central importance of information accessibility in barrier-free tourism (Mező, 2019); papers published in Hungarian academic journals: Paraturism and conflict management in the hotel industry (Kovács & Kozák, 2016); The potential of equal opportunities for people with disabilities in tourism (Gondos 2019), Innovative good practices in barrier-free tourism (Raffay & Gonda, 2020); Accessibility and parasport tourism opportunities in the European Union (Zsarnóczky, 2018a). A study on a legal approach by the authors Farkas and Nagy, entitled "One possible way to achieve fuller accessibility through the use of trusts", has been published in the journal Legal Theory Review (Farkas & Nagy, 2020). The articles of Hungarian authors published in international journals improve the international visibility of Hungarian research on the topic, such as The Future Challenge of Accessible Tourism in the European Union (Zsarnóczky, 2018b) in the Vadyba Journal of Management in Lithuania; The impact of tourism on the quality of life and The impact of tourism on the quality of life (Gonda, Nagy & Raffay, 2019); Travelling Habits of People with Disabilities (Gonda, 2021) published in the Romanian Geojournal of Tourism and Geosites; The Phenomenon of European Accessibility as a Special Niche in Active Tourism (Zsarnóczky & Zsarnóczky-Dulházi, 2019), also published in the Romanian Journal of Tourism Challenges and Trends. In 2018, the Polish Journal of Management Studies published An empirical study on the influences of management's attitudes towards employees with disabilities in the hospitality sector by the trio of authors Sharma, Zsarnóczky & Dunay.

The topic has of course also appeared in conference presentations, more and more frequently towards the end of the decade: The relationship between tourism and quality of life for people with reduced mobility (Gondos, 2017); The evolution of accessibility, or the path(s) of travel. Tourism security: on the field of practice and theory (Farkas, 2018);Can't make it on my own – an analysis of travel habits of people with disabilities in the light of the results of an international survey (Gonda & Raffay, 2020b); Accessibility as a tourism niche opportunity in the European Union (Zsarnóczky, 2018c); Accessible tourism as a rehabilitation "tool" (Dulházi & Zsarnóczky, 2018).

Several authors (Gonda, Gondos, Farkas, Raffay, Zsarnóczky) has published a significant part of their works on the issue of accessible tourism in the last five years.

RESEARCH ON ACCESSIBLE TOURISM TODAY (2020-2023)

In recent years, the study of this issue has entered the mainstream of tourism research. One of the triggers for this was the Erasmus+ project Peer Act, which included a major and influential research project (Gonda & Raffay, 2020a; 2021), exploring some good practices of accessible tourism in Hungary and internationally in five countries (Raffay & Gonda, 2020) and conducting a questionnaire survey among people with disabilities. In the course of this, 262 questionnaires were filled in and a small sample of about 30 questionnaires was also surveyed in each of the 4 foreign partners. The technical preparation of the questionnaire survey was carried out in Barcelona in December 2018 with the involvement of all partners. There it was decided that the Hungarian partner in charge of the research would carry out the baseline survey on a sample of 200 respondents, which would be compared with the national characteristics, for which the partners undertook to fill in 30-30 questionnaires. The questionnaire survey started in spring 2019 and due to the low response rate it took 5 months to complete instead of the planned 2 months. It was very difficult to reach disabled stakeholders. The questionnaire was mainly completed through an online filling-in tool, but in some cases face-to-face interviews were also carried out. In this respect, the Hungarian partner was very successful, as 89 questionnaires were completed in person at the Orfű Accessible Tourism Day in early September 2019, involving university students. A total of 262 completed questionnaires were received from Hungary, which is one of the largest sample numbers in the Hungarian accessible tourism research to our knowledge. To this result, we compare the results of the other 4 countries, where the number of fill-outs ranged from 22 to 34, as controls. The larger sample was evaluated first, with the results expressed as a percentage. Given the low number of foreign samples, in their case percentages were not calculated but the number of responses was indicated. A short research summary and a workshop paper presenting the full research results (Gonda & Raffay, 2021) were prepared. 47.8% of the Hungarians who completed the questionnaire were male, while 52.2% were female. The results have generated considerable national and international interest. The sample size does not seem very large compared to other studies, but to our knowledge it was the largest sample size in Hungary among studies specifically targeting access for people with disabilities. The importance of the accessibility of tourism supply and, in line with this, the provision of access to tourism services is also underlined by the study. The authors point out that only a small proportion of respondents, only 19.1%, prefer to participate in programmes specifically designed for people with disabilities. The proportion of those who prefer inclusion programmes is also small (19.8%). However, almost two-thirds of respondents (61.1%) were of the opinion that they do not prefer to participate in programmes specifically for people with disabilities, but would like to take advantage of the same supply as everyone else. It is interesting to note that when asked what kind of programmes they like to participate in, no Spanish respondents indicated programmes for people with disabilities. They prefer integrational programmes or programmes not specifically created for people with disabilities. In the other three countries too, programmes for people with disabilities were also the least popular answer, while tourism programmes not specifically designed for them were the most popular.

Besides the questionnaire survey, an initiative was taken in 2020 to bring together all Hungarian tourism researchers interested in the topic. For this purpose, a scientific conference was organised in September 2020 in Orfű, which was attended by most of the Hungarian researchers working on accessible tourism. The conference speakers were given the opportunity to publish their articles in the first issue of the periodical Turisztikai és Vidékfejlesztési Tanulmányok, TVT (Tourism and Rural Development Studies) in 2021. At that time, it was already clear that a wide range of research had begun in the field of accessible tourism. In addition to examining more general issues such as travel frequency (Gonda & Raffay, 2021), the authors also reported on relatively narrow but also important sub-areas. In addition to the study of accessibility of cultural facilities (Angler, 2021; Máté, 2021), for example, the exploration of barrier-free possibilities in wine tourism was presented (Slezák-Bartos et al., 2021) and the issue of river cruise holidays and barrier-free tourism was also addressed (Pókó, 2021). Of course, the study of accommodation, the most important service sector of tourism, was not left out of the scope (Horváth, 2021). The sensitivity of the journal to this topic remained even after the 2021 thematic issue of TVT. The authors Raffay-Danyi & Ernszt (2021) examined the issue from the perspective of Veszprém, European Capital of Culture in 2023, and in 2022 the well-known authors on the topic (Farkas & Raffay, 2022) tried to approach the issue of equal access from a new angle and from new perspectives using the method of investigation of the discipline of philosophy. It can also be noted that among the Hungarian journals, only TVT has developed a strong workshop on equal access in tourism. After 2020, only one study on the topic was published in the other leading Hungarian tourism journal, Turizmus Bulletin (Farkas, Raffay & Dávid, 2022b).

A further result of the Peer Act research mentioned above was that Hungarian researchers were able to make international contacts. In this context, a scientific volume published in Germany was produced, in which several Hungarian authors published (Gonda & Raffay, 2020a).

The quality and depth of research results in Hungary has reached a level of international scientific interest. This is also supported by the fact that, in addition to WoS-qualified conference proceedings, several Q1 and Q2 journals have enabled the publication of research results in recent years (Farkas et al., 2023; Farkas, Raffay & Petykó, 2022). Temporary collaborations were created for the better use of synergies between research activity and publications. Among these, the collaboration between colleagues from the Faculty of Business Economics of the University of Pécs, the BGE Budapest Business School, BGE and the Hungarian University of Agriculture and Life Sciences is noteworthy, also resulting in prestigious international publications (Farkas et al., 2022b; Farkas et al., 2022).

SUMMARY

The number of people living permanently or temporarily with a disability, whether since birth or acquired during their lives, is in the billions of people in the world's population, and this group with special needs and special circumstances is growing in numbers and in proportion in almost every country. In order to live a full life like their non-disabled peers, in addition to ensuring the usability of spaces and buildings used in everyday life, they also need, among other things, to be able to travel, to participate in the "beatific journey" of tourism. This is not only an ethical duty for the profession, but also a well-understood financial interest, because people with disabilities (and in many cases their accompanying persons) represent a significant, and far from fully exploited, market potential for tourism. In order to improve the situation, in addition to complying with the provisions of international conventions and Hungarian legislation on accessibility, it is necessary to sensitise society and change the attitudes of the general public towards people with disabilities, as well as to sensitise and train those working in the travel sector and, of course, to make tourist facilities and services (travel equipment, accommodation, catering facilities, attractions) accessible to all, not only in a physical sense. The research results also clearly show that the willingness and frequency of travel among the target group is higher than the national average. Their motivation and interests are similar to those of the vast majority in terms of tourist attractions and services. It was

also confirmed that if physical accessibility were to improve significantly in certain areas (public transport, access to extreme sports, accessible tourist routes), demand would increase by leaps and bounds.

Professional interest in accessible tourism is still considerable today. The ACCESSIBELE Erasmus+ international higher education project, which will be implemented between 2023 and 2025, will provide an additional impetus for research and analysis of the situation in 4 countries (Hungary, Croatia, Poland, Romania). The results are expected to further contribute to the literature on accessible tourism, providing information regarding the potential tourism segment represented by the disabled population in these countries and the motivations observed on both the demand and supply sides of the examined area.

In terms of further research directions, it may be advisable to recreate the present research using the systematic literature review (SLR) method in order to obtain a more comprehensive, credible and complex picture of the research conducted so far in the field of accessible tourism in Hungary.

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INNOVATIVE GOOD PRACTICE IN ACCESSIBLE TOURISM

ABSTRACT

The majority of people take barrier-free life for granted. In fact, it is estimated that 10 to16% of the world's population is affected by some form of disability, either permanently or intermittently. In developed countries, accessibility is also receiving increasing attention in the organisation of tourism supply, partly out of humanitarian considerations and partly in recognition of the significant business potential. In the most general terms, accessible tourism is tourism that is equally accessible to all, including people with disabilities, people with temporary disabilities, older people, people with young children and multi-generational families. Accordingly, the main areas of analysis of equal access are the same as the main areas of the supply side of tourism, namely: accommodation services; hospitality; tourist attractions; transport; communication. The authors have collected national good practice in the framework of an international Erasmus+ cooperation and a questionnaire survey was carried out to reach the target group of accessible tourism. The present study is primarily a comparative analysis of good practices, but also touches on the tourism habits of people with disabilities in some issues.

Keywords: accessibility, barrier-free tourism, disabled people

JEL: Z3

INTRODUCTION

Most people take living without barriers for granted. In fact, some estimates suggest that around 10% of the European population is affected by a disability. In developed countries, accessibility is also receiving increasing attention in the organisation of tourism offers, partly out of humanitarian considerations and partly in recognition of the significant business potential. In the most general terms, accessible tourism is tourism that is equally accessible to all, including people with permanent or temporary disabilities, older people, people with young children and multi-generational families. Accordingly, the main areas of analysis of equal access are the same as the main areas of the supply side of tourism: accommodation; hospitality; tourist attractions; transport; and communication. Of these, it is perhaps the accessibility of attractions that is most addressed in the literature, probably in the context of the fact that a significant proportion of attractions are state-owned public institutions (CSESZNÁK ET AL. 2009, KÁLDY 2010). The very definition of the target group for accessible tourism is problematic. In many cases, the public does not even include in the target group those who, due to their life situation, are members of the target group for a shorter or longer period of time, only: for example, pregnant women, people with temporary disabilities recovering from surgery, or the elderly. The proportion of the latter in the overall

population is steadily increasing, and for them many forms of accessibility are an essential need. Many of us therefore live with a permanent or temporary disability which can be a barrier to their lives and a barrier to their journeys. In fact, "Accessible tourism is a continuous effort to make all destinations, tourism products and services accessible to all people, regardless of their physical limitations, disabilities or age, and whether they are private or public tourist sites" (ACCESSIBLE TOURISM).

Accessibility is no longer an issue at the level of declarations, but the reality is different. This is confirmed by the results of research carried out in the framework of the Peer Act international project. When we want to explore the relationship between people with disabilities and tourism, we must always bear in mind that different disabled visitors have different specific needs. For them, however, accessibility is essential, as in many cases ignoring their specific needs can make it impossible for them to participate actively in tourism. In Hungary, the tourism opportunities, habits and needs of people with disabilities show significant differences in some aspects compared to the general population.

LITERATURE REVIEW

Defining disability is not an easy task, as it takes many forms. "We can include not only people with limited mobility, visual and hearing impairments, intellectual disabilities, but also those with other conditions that have a long-term impact on their quality of life, such as allergies" (ZSARNÓCZKY 2018:39). The WHO estimates that one in six people on earth has a disability and the proportion is steadily increasing (WHO 2011). The Convention on the Rights of Persons with Disabilities, adopted by the United Nations in 2006 and proclaimed in Hungary, obliges States Parties to ensure access for persons with disabilities to sport, recreation and tourism facilities and services (Act No. XCII of 2007). We can be affected by this issue at any time – think of our advancing age (but an accident can also make someone permanently disabled at any time). Special needs occur in older age for everyone, but there are also many other life situations that can give rise to special needs: e.g. people undergoing rehabilitation after an accident, families with young children (DARCY – DICKSON 2009).

The United Nations World Tourism Organization (UNTWO) is committed to promoting accessible tourism. In this spirit, it dedicated World Tourism Day 2016 to this theme. The organisation has issued a number of recommendations and a handbook on the issue (UNWTO 2016). Accessibility has been a major effort throughout human history, but only became a widely recognised social issue in the second half of the 20th century. It is now widely accepted that everyone, despite a disability, should be able to enjoy the pleasures of travel as much as anyone else, "since the enjoyment of the fullness of life is a right for all (VÉGH 2005:31). The European Parliament's resolution of 29 October 2015 on the Union's priorities for the future and the 2015-2015 European Agenda for European Tourism stresses: the importance of developing sustainable, responsible and accessible tourism; the principle of "tourism for all"; and that full accessibility and affordability of tourism are key to the sustainability of the sector. It recommends that Member States develop a Europe-wide, uniform and transparent labelling scheme for accessible supply and make accessibility a criterion for support in the context of economic support programmes for the tourism sector.

At the level of regulation, Hungary is not lagging behind other EU countries. According to Act XXVI of 1998, persons with disabilities have the right to an accessible, perceptible and safe built environment. They must be able to visit cultural, educational and sports facilities and to use transport systems and means of transport safely. The new National Disability Programme (2015-2025) adopted in 2015 noted that service providers have not yet recognised the tourism opportunities for people with disabilities. It is therefore important to update existing tourism demand surveys and disseminate them within the tourism profession, as well as to train and sensitise service providers and staff. The programme also stresses the importance of the principle of

universal design: the aim is to encourage the operation of tourism packages for people with disabilities, with a complex accessibility objective. It emphasises the development of accessible websites and accessible e-services.

According to (Hungarian Central Statistical Office) HCSO 2011 census data, there were 595,187 people with disabilities in Hungary. The breakdown by type of disability is shown in Figure 1. In our opinion, the population concerned by accessible tourism may be much larger, as it can be assumed that an elderly person in good health does not consider himself or herself as disabled, but already requires access to accessible facilities when using tourism services.

Figure 1

NUMBER OF PEOPLE WITH DISABILITIES IN HUNGARY BY THE TYPE OF DISABILITY ACCORDING TO 2011 CENSUS

Type	Number
other	2277
deaf and blinf (visual and hearing impairment)	3262
autist	5120
deaf	8571
blind	9054
speech imaired	10913
speech impediment	14528
unknown	37120
intellectually impaired	42779
mentally impaired	46265
several visceral disability	46648
hard of hearing	63104
visually impaired	73430
locomotory disorder	232206

Source: edited by the authors, using www.ksh.hu/nepszamlalas/tablak_fogyatekossag

As tourism has become a social phenomenon, it has also become an important factor in shaping quality of life (GONDA ET AL. 2019). Fortunately, it is nowadays accepted that facilitating travel for people with disabilities and ensuring the necessary physical conditions is not only a human, ethical, moral and legal obligation, but also an important economic issue. At present, this represents an untapped niche in the tourism market, although there have been many positive counter-examples in the recent past (BUHALIS ET AL. 2012). However, this untapped market segment should not be seen as a homogeneous group, as they have different specific needs for services depending on the type and extent of their disability. There are barriers that can affect all travellers and barriers that are insurmountable problems for certain narrow segments (SHAW – COLES 2004). The existence of different disabilities leads to different and specific needs, which can be addressed with specific ideas and solutions. The needs of blind and hard of hearing (deaf) people and creative solutions for accessibility designed to meet their needs are presented by Zajadacz (ZAJADACZ 2015, ZAJADACZ-LUBARSKA 2020).

Each tourist destination is at a different level in implementing accessibility. Some develop special offers for people with disabilities, others present accessibility as a distinctive feature – seeing its market potential. Unfortunately, there are still places that do not address this issue at all. The major European countries in the international tourist trade are clearly placing great emphasis on this issue. Thus, the efforts made by Spain (VILA et al. 2015) and Italy (AGOVINO ET AL. 2017) in the field of accessibility in tourism deserve to be highlighted. Among former socialist countries, Poland pays a lot of attention to research on the topic (ZAJADACZ 2014, 2019), and it is also clear that there is

a growing interest among Hungarian researchers in research on accessible tourism. In our personal experience, the situation is much better in Germany where correct solutions for equal accessibility in all areas of life (including transport, of particular importance for tourism) can be found. The implementation of accessible tourism is not the same as physical accessibility, the experience of an accessible destination is much more than that: it is the implementation of the principles of independence, equality and human dignity in the tourist experience. Experiencing the spirit of a place, exploring a geographical space is as important for people with disabilities as it is for anyone else.

It is generally accepted that the experience of travelling and holidaying enhances subjective feelings of happiness (CSAPÓ ET AL. 2018). This is particularly true for people with disabilities, for whom tourism often offers the opportunity to escape from the hardships of everyday life. In many cases, travel is a holiday for them, and the experience helps them to make contacts and integrate more easily into society (GÁLNÉ KUCSÁK 2008).

Several empirical studies in Hungary have shown that people with disabilities face significant problems when travelling and that their disability hinders them in realising their travel plans. This is why many of them choose the option of "no travel" (CSAPÓ – GONDA 2019, CSAPÓ ET AL. 2019). Around half of people with reduced mobility had a disability that prevented them from carrying out a tourism programme, and 75% of people with visual impairments (MOTIVÁCIÓ ALAPÍTVÁNY ÉS A REVITA ALAPÍTVÁNY KUTATÓMŰHELYE 2009). Providing a high standard of service to disabled visitors requires empathy and attention from those involved in the tourism industry.

METHODOLOGY

The authors were experts in the implementation of the European Peer Counselor Training in Accessible Tourism – Peer-AcT Erasmus project. The project designers felt that it was essential to get the views of people with disabilities in order to shape attitudes, identify concrete improvements and launch practical actions. The project therefore included two surveys: an online questionnaire survey of people with disabilities to find out about their travel practices and their personal experiences of accessibility when travelling. The survey involved 272 questionnaires completed in Hungary, which were compared with a small number of surveys (N 22 to31) in 4 other countries participating in the project. The second survey was a collection of local good practices. The latter is the subject of our current study.

The project partnership included 5 countries: two organisations from Germany, and one from Croatia, Spain, Italy and Hungary. The partner organisations were tasked with collecting good practices on accessible tourism and training for people with disabilities from their respective countries. The 29 good practices identified by the partners were evaluated at an international project meeting and 23 were selected by consensus and presented here. Prior to the survey, we defined what we consider to be good practices in tourism. Based on this, we formulated the following expectations for good practices: "Good practice" means a method or activity that includes ideas and procedures that facilitate the development of a given business or organisation, in our case the provision of accessible tourism services, the development of high-quality service practices. Accordingly, a good practice should be 1) successful; 2 innovative; 3) applicable in other areas; 4) sustainable; and 5) a positive example to others.

RESEARCH FINDINGS

The project partners have gathered good practices from their countries on how to involve people with disabilities more intensively in tourism or enable them to participate in tourism at all.

Involving people with disabilities more intensively in tourism is not only, or even not primarily, a financial issue (although there are undoubtedly financial benefits to be gained from attracting a new segment of the tourism industry, especially if the additional demand generated by the accompanying persons is included), but also a human and ethical issue. Some of the projects focused specifically on specific people with disabilities, others on the general accessibility of the tourism sector, making urban spaces, parks, hiking trails, public buildings and tourist service facilities accessible to people with disabilities, with the aim of ensuring that disabled visitors feel exactly the same status as their able-bodied fellows not impaired in any way in their mobility, vision, etc. The breakdown of good practices by partner country was: Croatia 3 practices; Germany 5 practices; Hungary 5 practices; Italy 6 practices; and Spain 4 practices.

Among the partner countries, there are some where the facilitation of the living conditions of people with disabilities, including the provision of services to enable them to travel, has a long history, going back to several decades (typically Germany, Italy and Spain), and others where society and the tourism sector are only just beginning to recognise the importance of the issue (Croatia, Hungary). More than one practice can be considered as a pioneering one in its own country, such as the Accessible Tourism Day in Orfű, Hungary or the initiative of Platja d'Aro-Girona-Catalunya in Spain to sensitise tourism sector workers to welcome guests with autism and autism spectrum disorder (ASD), but we could also mention the provision of sporting opportunities for people with disabilities, such as the initiative of SportABILI Alba Onlus A.S.D. in Italy or the archery club Club Arquers Salt in Spain. The Italian partners reported on a number of museum projects and initiatives, whereas the German good practices included the involvement of museums in developing tourism opportunities for people with disabilities.

The good practices included public organisations, municipalities, sports clubs, NGOs and tourism service providers, so there seems to be an attention paid to the problem by society and the economy. There were also some best practice projects where the actors themselves were people with disabilities, such as the two promoters of a mobile ramp initiative in downtown Zagreb, but in many cases the practices were implemented with the involvement of people with disabilities. Some good practices focused specifically on a particular disability (e.g. solutions for blind and partially sighted people to enable independent transport in buildings, such as the initiative of a partner in Croatia for accommodation and other tourist facilities: designation of prominent walkways slightly raised from the floor, installation of strips on walls to facilitate transport, larger numbers and Braille on hotel room doors), others enabled or facilitated access to tourism for all disability groups. The most common practice, working with the broadest partnership, was the good practice of the Deutsches Seminar für Tourismus in Germany, which sought to extend the certification and trademark system linked to accessibility to organisations involved in tourism, businesses associated with tourism (travel businesses and travel-related establishments, accommodation, catering, information services, travel agencies, recreational services, parks and public spaces, zoos, museums and galleries, religious buildings, theatres and cinemas, event venues, public institutions).

A significant proportion of projects are supported by donations, public subsidies and grants, but there are also examples of entrepreneurial activity to cover as much of the costs as possible. The themes covered by the good practices are presented in Table 1.

Table 1: Grouping of the good practices collected by country and their relevance to the thematic areas (a good practice can relate to several themes)

Categories of best practices	HU	CRO	ESP	GE	IT
Bes practices, no.	*5*	*3*	*4*	*5*	*6*
1. Event/innovative projects	1	1	1		2
2. Making buildings physically accessible	1				1
3. Making public spaces physically accessible	1	1	2		3
4. Tourism destinations	2	1		2	2

5. Mobility, community / private transportation				1	
6. Service chains / counselling, databases, information (pl. wheelmap.org)	2		1	3	
7. Marketing				2	1

Source: edited by the authors

The main objective of the Peer Act project was to develop a methodology and curricula for peer training so as to enable people with disabilities to help their fellow citizens to organise and run their tourism activities. In this context, a specific analysis of good practices in this type of training was carried out. A breakdown of these and their links to the different types of training are in Table 2.

Table 2: Number of training good practices within all good practices and their fit to each type of training (one good practice can fit several types of training)

Categories of best practices (trainings)	HU	CRO	ESP	GE	IT
Number of trainings within all best practices	*3*	*0*	*1*	*2*	*2*
1. Peer Counselling (peer assistants)	1			2	2
2. Inclusive trainings in adult education				2	1
3. Training and learning in the area of accessible tourism			1		2
4. Inclusive E-Learning tools	1				
5. Others					1

Source: edited by the authors

The good practices identified by the Peer Act partners were:
Certification scheme, trademark, labelling
The use of rating systems and trademarks in tourism is not new, but it is far less common in the disability tourism sector than in the accommodation or even hospitality sector. A trademark is both a guarantee of quality service for the consumer and an excellent marketing tool and advertisement for the service provider. This is the case of the "Travel for All" initiative in Thuringia, Germany, or the People First Association in Hungary, which works in pairs (one person without and one person with a disability) to visit the catering and tourist facilities of a city and then affix a sticker demonstrating the accessibility of the facility, with a special indication of the existence of a fully accessible toilet. (If the place is not yet fully accessible but could be, the People First Association will also help to obtain the necessary equipment.)
Databases
In cooperation with, but also independently of, rating and trademark schemes, many good practices include the creation, maintenance, operation and availability of databases to facilitate travel decisions for people with disabilities of all kinds and their accompanying persons. Good practices on databases were reported by two German, one Hungarian and one Spanish partner.
Physical accessibility
One of the most obvious solutions is that in many places there are physical barriers to accessing (e.g. wheelchair access) or using (e.g. blind or partially sighted persons) tourist facilities. One good practice from Zagreb would make it easier for wheelchair users to access restaurants and other tourist facilities by means of light and easily movable mobile ramps.
Sports facilities for people with disabilities
Accessibility is essential to ensure that people with disabilities do not feel excluded and in need of support but feel fully integrated into society. Club Arquers Salt, a decades-old archery club in

Spain, has an innovative project that enables disabled and even blind people to enjoy this beautiful sport.

Sensitisation, awareness-raising

As several partners in Italy put it very well, the aim is for society to see people with disabilities not as people who need help, but as a valuable resource, as people who are on an equal social footing with people without disabilities. The training of human resources, which is extremely important in the hospitality sector, is the subject of several exercises: the attitude, knowledge and skills of the people who come into direct contact with the guest are extremely important and can make the journey of people with disabilities pleasant and memorable, or even ruin it with an inappropriate reaction or an inability to deal with certain situations.

Providing employment opportunities for people with disabilities

For people with disabilities to see themselves (and for society to see them) as equally useful members of society, one of the most important things is to create suitable jobs and working conditions. Perhaps the most interesting initiative in this respect is Citadela in Croatia, in cooperation with the Association of Children and Youth Disabilities "Zvono", which trains people with acquired disabilities in handicrafts (weaving, pottery), thereby greatly increasing their chances in the labour market; it also runs a herbal plant production and drying facility, an innovative design workshop for textiles, but also provides training in rural development and organic farming, and renewable energy.

Education, training

Having the right skills and qualifications is essential for employment. Training can take the form of on-the-job training, such as the cooperation in Croatia mentioned above, or formalised links with educational institutions such as universities. A good example of the latter is the Institut für Inklusive Bildung gemeinnützige GmbH (Institute for Inclusive Training Plc.) in Germany, referring to inclusive education in its name, and which cooperates with a university, the Christian-Albrechts-Universität in Kiel. Under the motto "Not without us about us", their training courses provide education specialists with practical advice on, for example, the design of living environments for people with disabilities, depending on the type of disability.

Peer counselling

Also known as peer support, this is the involvement of people with disabilities in supporting their peers. This is particularly important when someone is not disabled from birth but has acquired a disability after an accident or illness. Experience has shown that people in this situation are more likely to accept help from others who themselves have similar problems, so that the role of the "ferryman", who guides the disabled person from the world of the able-bodied to the world of the disabled, is crucial during a particularly challenging period of transition. In the project of the People First Association Pécs Mozgássérült Emberek Önálló Élet Egyesülete (People First Association Pécs Self-contained Life Association of Disabled People), people with disabilities who have been living with disabilities for a longer period of time help their recently disabled peers (using a Swedish model) to adapt to the changed life, supporting them in their rehabilitation and (re)integration into society. In contrast to non-disabled experts, the "ferryman" is also more credible and acceptable to people who are often still struggling with the trauma of having become disabled, of their own life situation.

4. RECOMMENDATIONS FOR FUTURE RESEARCH

The research highlighted in the article was limited to five European countries, and although they are diverse are regards their size, population and their experiences in accessible tourism, the finding may not be generalisable to the pan-European or global tourism market. Therefore, the scope of the research should be extended in both space and timer: the involvement of other countries in similar surveys, and the repeat of the survey in the respective project countries could lead to more information that the tourism sector could apply in making all of their services more accessible to all, including people with disabilities.

5. SUMMARY

In addition to social, humanitarian and solidarity issues, the increased involvement of people with disabilities in the tourism sector also represents a major economic and business opportunity: people with disabilities make up about one tenth of the European population (and, partly due to the ageing of the continent's population, it is an increasing proportion). Better serving the tourism needs of these people and their companions represents a major market opportunity for tourism service providers.

In some countries this opportunity has been recognised for decades and people with disabilities can enjoy most tourism services in almost the same quality as their able-bodied counterparts, while in others it is only recently that the scientific and professional community is beginning to address the issue. Following a brief review of the literature on the issue, this paper analyses best practices in the inclusion of people with disabilities in tourism in five countries (Hungary, Germany, Italy, Spain, Croatia and Croatia) participating in the Erasmus programme "European Peer Counsellor Training in Accessible Tourism – Peer-AcT", a European initiative. The good practices are hosted by industry, public and civil society organisations; some of them involve investments in equipment and capital, others only require sensitisation, education and attitude development of the people involved in order to ensure that people with disabilities have a full experience during their travel. The best solution is peer consulting: for people with disabilities, especially if the disability is the result of a recent trauma, more authentic and acceptable is a support person who has been living with the same problem for a longer period of time.

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THE ROLE OF MANAGEMENT COMPETENCIES IN THE STRATEGIC MANAGEMENT OF LOCAL DEVELOPMENT IN BOSNIA AND HERZEGOVINA

Abstract

The implementation of a development strategy, which represents a key strategic document, directly depends on effective managerial management and the necessary management competencies. The fact is that the requirements of market dynamics, as well as the perception of efficient behaviour, are constantly modified. In that sense, the strong management knowledge and competencies that are possessed by managers in the process of strategic management of local development are powerful tools for creating effective changes in their behaviour. Competence profiles inevitably become obsolete, and the need for continuous adaptation and development of new managerial skills becomes imperative. Within this research, which examines management competencies in the context of the strategic management of local development, we sampled the opinions of 302 respondents from 21 local communities in Bosnia and Herzegovina, which represents 15% of the total number of local communities in the country. The data were established through a detailed and comprehensive questionnaire and then processed through the methods of descriptive and factor analysis, then analysis of variance and multiple regression analysis. The research was carried out very clearly and indicates a strong interdependence between managerial competencies and the strategic management of local development. The final results and insights of this research could be used as guidelines for optimizing management strategies with the aim of further improving local development.

Keywords*:* management competencies, strategic management, local development, local self-government units, Bosnia and Herzegovina

JEL: M1, M2, O1, O2

1. INTRODUCTORY CONSIDERATIONS

The significance of local community development is closely related to the fundamental preparation and implementation of a comprehensive local development strategy. Developed and advanced countries globally implement local and regional development strategies using a participatory planning approach. When we talk about the strategic management of local development, it is necessary to keep in mind certain prerequisites and conditions that make this process effective. One of the key questions that arise is why some local communities make significant progress, while others do not follow a similar pace of development, and thus fall behind. Challenges of

development or stagnation are equally economic and political. Changes in economic policy, which are often hindered by undemocratic institutional structures, do not achieve long-term progress. Certainly, development in the context of local communities means the transition of the community from a state of poverty to a state of prosperity. This process inherently brings changes in the capabilities and needs of local communities, which naturally change over time.

Resource management and ownership issues at the local level are of essential importance for the decentralization process, as well as for the well-being of the economy and the development of the local community. What is of crucial importance is the role and power of the management competencies of the local self-government unit. These competencies do not represent only a series of abilities and knowledge, but imply the integration of these abilities, knowledge and skills into a key competence. The core of these competencies is the collective learning of the management of the local community, especially about the ways of coordinating different knowledge, attitudes and skills, as well as about the integration of technological processes. Managerial communication appears as a predominant competence, with the task of supporting the constant maintenance of dialogue with employees, elected officials and all segments of society.

All of this is the basis for understanding the importance of management competencies in the process of strategic management of local development. Effective and timely making of key decisions and fulfilment of obligations, especially in the implementation of strategies and plans, are vital for the prosperous future of developing countries, as well as the countries of the European Union (EU). We note that, although local communities often present similar goals, they are often not correlated with the efforts invested in the process of implementing strategic management of local development. The goal of this research is to determine the real impact of management competencies on current practices of strategic management of local development.

2. A LITERATURE REVIEW

Local economic development is realized as a result of thorough experimentation in decentralization processes, which are undoubtedly stimulated by intensive globalization processes and growing capital mobility (Thompson, 2008, p. 235). It is undeniable that local economic development deserves a central place in today's modern economic framework.

The fact is that every economic activity takes place in a specific geographical area. Therefore, it is logical that each local economic entity contributes to the creation of that global economic picture (Čapkova, 2005, p. 3). A view of local economic development is often a perspective from which the ability of the local economy to improve the quality of life of its residents is viewed. Improvements are most often reflected through the growth of the number of employees, an increase of real incomes, improvement of the quality of infrastructure and local services, growth of individual and collective assets and improvement of living standards and other quality of life parameters.

In this regard, by strengthening both social and economic profiles, along with the parallel improvement of the spatial planning profile, local units become more and more capable of taking responsibility for local development (Koprić, 2014, p. 470). At the end of the eighties of the twentieth century, the world experienced revolutionary transformations, which had a profound impact on the activities of local communities. This turning point marked the beginning of a significant growth of entrepreneurship, not only in industrialized countries but also in less developed countries, including small, local communities. Responding to the ever-accelerating pace of globalization, numerous states and local communities have embraced the market economy paradigm. This transition was facilitated by rapid technological progress, and its consequence was the expansion of global business, which is characterized by the free movement of people and goods (Cvijović, 2014, p. 383).

The peculiarity of local communities in Bosnia and Herzegovina lies in the fact that they constitute the lowest level of administrative authority. Compared to cantons in the Federation or institutions at the state level, they have significantly smaller budgets. Therefore, local communities must focus on strategic business management, which implies that mayors, civil servants state employees and other employees actively participate in making and implementing decisions that will shape the future of the community. Bosnia and Herzegovina geographically and administratively consists of two entities: the Federation of Bosnia and Herzegovina and the Republika Srpska. In addition to them, the city of Brčko has a special status - District, it functions as a condominium of both entities. In total, Bosnia and Herzegovina has 143 local communities. Of that number, 79 local communities are in the Federation of Bosnia and Herzegovina, 64 are in the Republic of Srpska, while Brčko District of Bosnia and Herzegovina is a separate administrative unit. (Abadžić, 2022).

The laws that regulate the work of local self-government make it clear that the tasks of management structures are precisely defined: the creation of a favourable business environment, entry into force of incentive normative acts, attraction of investments, and overall, taking measures to promote local development. Normative activities and delegation of competencies represent the primary activity of the management staff of local communities. The role of encouraging local development should not be neglected but should be given utmost importance. The management of local communities must therefore give priority to constant strategic reflection and action aimed at the improvement and development of basic competencies while fulfilling certain tasks: recognition of current key competencies, determination of a plan to fill gaps in basic competencies, creation, development, protection and maintenance of those same competences. Only continuous and well-organized efforts of the highest level of management of the local community to improve work processes and solve urgent problems by local and global changes can lead to the real development of the local community. The same goal can be achieved by improving cooperation and raising the level of social culture in communities (Abadzic, A., Umihanic, B., Ćebić, M., 2012, p. 45).

The process of strategic planning is of inestimable importance for local communities and integrates the following segments: assessment of current affairs (situational analysis), creation of a local development strategy, implementation of the established strategy, and continuous monitoring and evaluation. The problems of unplanned and sporadic development of local communities are often associated with the concept of local progress. In addition, local communities, cities and regions begin an increasingly intensive search for methods and means to make the most of the economic opportunities brought by globalization, but at the same time, they face the challenge of how to protect themselves from negative global environmental externalities (Kadlec, 2013, p. 99). Leading local development implies proactive and responsible management of local potentials and shaping the future of the local community, to constantly improve the quality of life in them, that is, the mission of local self-government. Studies conducted in the field of local development indicate that the key components in planning and implementing local development strategies and plans are the commitment and competence of local management. Also, it is necessary to establish and strengthen the unit for operational management of local development, internal coordination between departments/services and external coordination with other actors in the local community and beyond. The modern approach to the strategy of local and regional development is viewed in the context of the decentralization of public affairs, responsibility for their performance and the principled way of financing them. The most effective management of local development can be achieved by local and regional authorities, and effectiveness is achieved in coordination with wider levels of government, which provide a clear framework for strategic planning and decision-making, as well as through cooperation and partnership with the private and non-governmental sectors. The approach of good leadership in the creation of local development strategies becomes a key method for achieving superior results and using competitive advantages. Management within the local administration is characterized by a tripartite structure, the constituent parts of which are: top

management, mid-level management and management at lower levels. Top management is represented by experienced and skilled leaders, such as mayors and ministers, as well as chief department heads. Middle-level managers are most often in the position of assistant ministers, leaders of subgroups within departments, and heads of departments. Management at the lowest level is characterized by leaders of individual teams and sectors, project managers and executors of different levels of leadership within public administration bodies. To efficiently and effectively manage human resources within their jurisdiction, each of these three levels of management must possess an appropriate set of competencies. A long-term study of the dynamics of the work of managers at different levels led to the conclusion that technical knowledge is of absolute importance for managers at the basic level, knowledge about people is crucial for middle-level managers, while competencies in conceptual thinking come to the fore most in top management (Umihanić B ., Abadžić A., Ćebić M., 2012, p. 220).

However, today's globalized and technologically advanced business climate requires that managers of all levels have comprehensive knowledge that includes all the above-mentioned competencies. The flexibility of the organization in the modern context is closely related to continuous organizational learning and improvement of managerial skills. To successfully perform their tasks, managers at all levels must possess appropriate knowledge and skills (Buble, 2013, p. 250). Despite this, the modern era of business puts more emphasis on managerial and less on professional competencies (Isaković, S., Crnkić, K., Kulović, Dž., 2012, p. 163). All employees should have professional competencies, especially when it comes to public administration. Expertise should be seen as the possession of all knowledge, not just the possession of technical knowledge, because technical knowledge is not the only knowledge that managers must possess (Weihrich, H., Koontz, H., 1998, p. 490). Today, it is necessary for managers of all levels and in all organizations to possess all the above-mentioned knowledge and skills to the greatest possible extent, to ensure the adequate development and manifestation of their competencies.

3. RESEARCH METHODOLOGY

With a comprehensive research plan, we have established a detailed framework for conducting comprehensive empirical research. Throughout the process, we defined the methodology with clarity and precision, determining the steps that guarantee the validity and reliability of our research. The field of research is local communities in Bosnia and Herzegovina. Due to the characteristic structure of Bosnia and Herzegovina, we precisely segmented and structured our research, focusing on the special characteristics of local communities in the Federation of Bosnia and Herzegovina, Republika Srpska, and Brčko District of Bosnia and Herzegovina. In all stages of the process, we especially valued the regional representation of the target group to ensure the reliability of the results of our research.

Through analysis and approaching the problem with a detailed understanding, we posed one of the key problematic questions of our research: Are the current management competencies within local communities adequate and can the realization of the set missions and visions, as well as the achievement of goals, be ensured through the improvement of both processes and personnel? which were previously determined within the strategies for the development of local communities in Bosnia and Herzegovina. The characteristic nature of this topic required the formation of a particular research hypothesis that reads: Management competencies significantly influence the strategic management of local development within Bosnia and Herzegovina.

The primary focus of this comprehensive research is centred on managers from local communities throughout Bosnia and Herzegovina, which includes the entities and Brčko District of BiH. The sample of our research was carefully selected by the principles of probability theory, where the elements of the sample were selected following a randomized procedure. During the formation of

the research sample, we applied the stratified sample method. Taking into account the complexity of this structure, we applied a stratified random sample that was designed by the coverage of both entities in Bosnia and Herzegovina and Brčko District of BiH. The stratification was carried out meticulously about the territorial organization in Bosnia and Herzegovina, as well as by the data and organizational charts of the local self-government units. Three strata are recognized, specifically: prominent managers who represent the highest level of management and include chiefs or mayors, ministers and heads of departments - especially for the Brčko District of BiH; the middle level of management, which includes managers who function as assistant ministers, assistant chiefs, heads of subdivisions, heads of sectors, etc.; and the lowest managerial level, including heads of departments, project managers and other managers in local self-government. To cover all strata, the help of the Union of Municipalities of the Federation of Bosnia and Herzegovina and the Union of Municipalities of the Republika Srpska was used. The research is mainly focused on covering the first and second strata in local communities, considering that the managers of these two levels directly participate in the development of the local community.

To validate the central research hypothesis that postulates that management competencies have a significant impact on the strategic management of local development within Bosnia and Herzegovina, two variables were defined. More precisely, management competence was highlighted as an independent variable, while strategic management of local development was set as a dependent variable. The value of the variable "management competence" is divided into three distinctive groups of indicators: knowledge, skills, attitudes and experiences. The first indicator, "managerial knowledge", is designed to extract relevant information from managers in public administration about learning processes from previous situations, about strategies for improving the quality of work, applying creativity in the work process, and about engagement in informal education. The second indicator, "managerial skills", was aimed at providing insight into how managers in local communities solve and recognize practical problems, their abilities to plan and organize business, motivate employees, their level of communication skills, as well as provide support to workers. The third indicator, "attitudes and experiences", is designed to investigate the attitudes of managers in public administration according to the opinions of employees, find out who has relevant information, to what extent managers possess a certain level of resourcefulness, how ethical standards are respected, what experiences managers have acquired, and how they manage in new situations. The dependent variable, strategic management of local development, is also broken down into three component indicators, ie: preparation, implementation and realization of performance indicators (monitoring and evaluation). Each of these indicators was checked using the appropriate questions in the survey, to ensure their precise answer and their relevance to the research hypothesis.

As a means of research, the survey method was applied through a questionnaire formed in three segments. The first segment was created to collect information about the basic characteristics of the respondents, while the second is a tool for already selected research indicators. The third segment of the questionnaire was designed as an open space for respondents' comments and opinions that may be relevant to the research. After the entire data collection process, all information was coded and processed using appropriate statistical methods. The resulting information was transformed from the primary data collected through the survey, and then a comprehensive statistical analysis was performed using methods such as IBM SPSS 22 and Excel 2016. During the analytical process, univariate and multivariate analyses with different statistical interpretations were used. Descriptive analysis presented the processing of the collected data, showing the observable characteristics of the respondents and their answers to the questions. Factor analysis was used to examine the connection between certain questions and research indicators. Furthermore, a multivariate analysis of variance (MANOVA) was used to examine how certain characteristics of the respondents are reflected in the answers given to the research indicators. Analysis of variance (ANOVA) was used to examine the influence of the respondents' basic characteristics on the answers to certain questions within the

indicators. Correlation analysis was used to examine the relationship between the research indicators, while multiple regression analysis was used to verify the set research hypotheses.

4. ANALYSIS AND DISCUSSION OF RESEARCH RESULTS

To carry out the research, the sample included 302 managers (chiefs, mayors, prime ministers, ministers, heads of departments, assistant ministers, deputy heads, heads of subdivisions, heads of sectors, etc.) all to obtain relevant and precise information. All of them were asked to answer a series of carefully constructed questions that focused mainly on their professional habits and attitudes. The first question was "How much creativity is applied at work?", designed to assess the level of application of creative thinking in everyday work tasks and problems. The second question, "Do managers learn from previous situations?", considers the importance of previous experiences in the context of continuous learning and improvement. Managers were also asked the question: "Is it necessary to constantly raise the quality of work?" which aims to determine their attitude towards constant improvement and the desire to improve the quality of business. The last question, "Is it necessary for managers to be continuously educated informally?" deals with the topic of continuous non-formal education as a method for maintaining a competitive advantage in the dynamic business world.

The results of the research, presented in Figure 1., indicate that creativity is highly represented in the work of the respondents, that the majority of respondents learn from previous experiences, they agree that the level of quality of work should be raised continuously and that continuous informal education of the respondents in the area of their actions.

Figure 1 Professional habits and attitudes of respondents
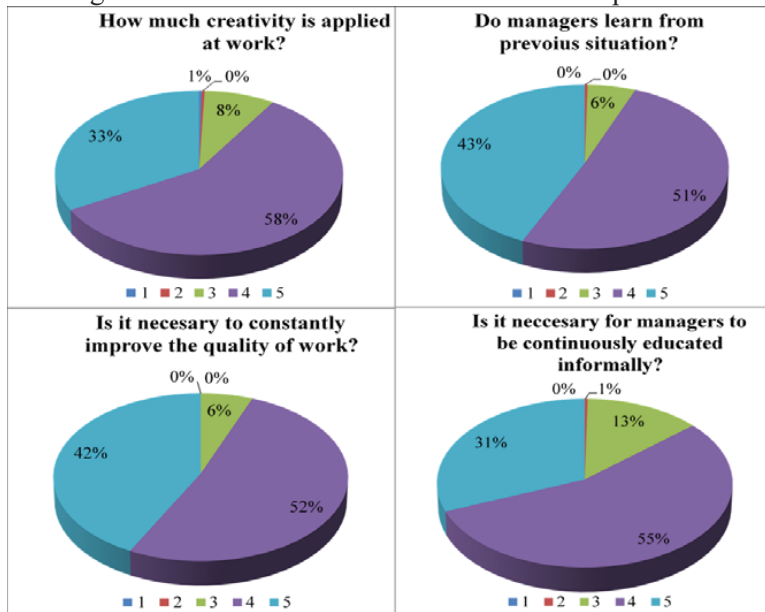
Source: Authors

Respondents were invited to express their views on specific questions related to their competencies. Due to the volume, these questions were organized into three central groups: managerial skills in management aspects, managerial skills, as well as attitudes and experiences. The first group, which refers to managerial skills, contained four questions. The goal of these questions was to gain insight into the pace at which managers learn and adapt to new situations, their commitment to continuous improvement of the quality of work tasks, the application of innovation in daily business, and what

is their attitude towards permanent informal education. The second group of questions contained six questions related to managerial skills. Through these questions, we wanted to get information about how managers approach and solve practical problems, to what extent they effectively identify problems, their ability to plan and organize business processes, the stimulation of employees for the efficient execution of assigned tasks, as well as the assessment of their communication skills. Also, we wanted to find out if managers help their workers overcome problems. The third group consisted of six questions related to managers' attitudes and experiences. We wanted to find out, based on these questions, how confident managers are in deciding whom to turn to and whom to ask for help if needed, to what extent they respect the opinion of other employees, how management manages in different situations, whether they apply ethical standards in business, whether they have previous experience in solving problems, as well as the ability of managers to quickly adapt and act effectively in new situations. Respondents' answers are precisely systematized and shown in Table 1.

Table 1. Respondent's answers to the management competence questions

Questions	Assessment				
	1	2	3	4	5
MANAGERIAL KNOWLEDGE					
Do managers learn from previous situations	0	1	17	153	130
	0,00%	-0,30%	-5,60%	(50,7%)	-43,00%
Is it necessary to constantly improve the quality of work?	0	0	18	156	128
	0,00%	0,00%	-6,00%	(51,7%)	-42,40%
How much creativity is applied in work?	1	1	25	175	100
	-0,30%	-0,30%	-8,30%	(57,9%)	-33,10%
Is it necessary for managers to be continuously educated informally?	0	1	40	167	94
	0,00%	-0,30%	-13,20%	(55,3%)	-31,10%
MANAGERIAL SKILLS					
Do managers successfully solve practical problems?	1	1	26	196	78
	-0,30%	-0,30%	-8,60%	(64,9%)	-25,80%
How effectively do managers recognize problems?	0	0	30	198	72
	0,00%	0,00%	-9,90%	(65,6%)	-23,80%
How successfully do managers plan and organize business?	1	1	30	190	78
	-0,30%	-0,30%	-9,90%	(62,9%)	-25,80%
Are employees encouraged to perform their assigned tasks well?	0	2	36	181	83
	0,00%	-0,70%	-11,90%	(59,9%)	-27,50%
How good are managers in communication skills?	1	0	25	176	100
	-0,30%	0,00%	-8,30%	(58,3%)	-33,10%
Do managers help employees solve problems?	0	1	22	168	111
	0,00%	-0,30%	-7,30%	(55,6%)	-36,80%
ATTITUDES AND EXPERIENCES					
Do managers know who to turn to and who to ask if they need help?	0	2	24	174	101
	0,00%	-0,70%	-7,90%	(57,6%)	-33,40%
How much is the opinion of other employees respected?	0	0	17	175	110
	0,00%	0,00%	-5,60%	(57,9%)	-36,40%
How resourceful is management?	0	0	14	193	95
	0,00%	0,00%	-4,60%	-63,90%	-31,50%
Are ethical standards applied in business?	0	0	11	160	131
	0,00%	0,00%	-3,60%	-53,00%	-43,40%
Do the managers have experience in solving problems?	0	1	18	182	101
	0,00%	-0,30%	-6,00%	-60,30%	-33,40%
How well do managers manage in certain new situations?	0	2	23	200	77
	0,00%	-0,70%	-7,60%	-66,20%	-25,50%

The research used exploratory factor analysis (EFA) and it was shown that the questions within the independent variable of management competence are grouped into three factors that explain 62.229% of the variance. This percentage is typical for social research. The first factor explained 22.639% of the variance, the second factor explained 20.201% of the variance, and the third factor explained 19.389% of the variance. The results of the conducted EFA analysis showed that the value of the KMO indicator is greater than 0.6 (KMO = 0.905), which shows that the sample is adequate for carrying out factor analysis. The value of Bartlett's test of sphericity is p = 0.000, which is less than 0.05, which proves that the correlation matrix is suitable for factor analysis. Cronbach's alpha is used to test the reliability of the measurement scale used t. The results of this indicator are greater than 0.75, which shows that the measurement scales in the factors are good and that the questions answered by the obtained factors were used.

Managers were invited to express their views on specific issues related to the preparation and implementation, implementation and implementation of plans. The first group, which related to the preparation of plans and the planning process, contained six questions for which we wanted to get answers to the extent that development strategies are the basis for planning the work of managers in local self-government units. Managers also provided answers to questions related to strategic goals, to what extent they are the basis for planning activities and whether they are sustainable in the planning horizon. Within this group of questions, the managers provided answers about the involvement and information of employees in the processes of preparation and development of plans. The second group of questions contained six questions related to the implementation of plans. Through these questions, we wanted to get information about the connection between planning and implementation of plans, as well as about the involvement of employees in the process of implementing plans. The third group of questions contained six questions related to measuring the success of the implementation. We wanted to find out, based on these questions, how much managers are involved in the process of collecting information about the results of the activities, their analysis, measuring goals and the involvement of employees in actively collecting, analyzing, measuring the results achieved and reporting on the results achieved. Respondents' answers are precisely systematized and shown in Table 2.

Table 2. Respondent's answers to the questions of strategic management of local development

Questions	Assessment				
	1	2	3	4	5
PREPARATION AND PLANNING					
Is the development strategy the basis for planning future activities?	1 (0,3%)	2 (0,7%)	13 (4,3%)	177 (58,6%)	109 (36,1%)
Are strategic goals a key segment of activity planning?	0 (0,0%)	0 (0,0%)	23 (7,6%)	176 (58,3%)	103 (34,1%)
Do the set goals have to be sustainable?	0 (0,0%)	1 (0,3%)	16 (5,3%)	163 (54,0%)	122 (40,4%)
When planning, in your opinion, should less complex goals be set?	1 (0,3%)	12 (4,0%)	29 (9,6%)	180 (59,6%)	80 (26,5%)
Do employees have to be involved in planning activities?	1 (0,3%)	4 (1,3%)	19 (6,3%)	170 (56,3%)	108 (35,8%)
Do all employees have to be informed about planning activities?	1 (0,3%)	5 (1,7%)	22 (7,3%)	172 (57,0%)	102 (33,8%)
IMPLEMENTATION					
Are planning activities the basis for the implementation of future projects?	0 (0,0%)	3 (1,0%)	12 (4,0%)	194 (64,2%)	92 (30,5%)
Should planning activities be coordinated during implementation?	0 (0,0%)	2 (0,7%)	17 (5,6%)	186 (61,6%)	97 (32,1%)

Are resources used in the best way to achieve goals?	1 (0,3%)	6 (2,0%)	48 (15,9%)	178 (58,9%)	68 (22,5%)
Should you be actively involved in the realization of the set goals of the projects?	0 (0,0%)	0 (0,0%)	11 (3,6%)	195 (64,6%)	96 (31,8%)
Should employees be involved in the realization of goals?	1 (0,3%)	1 (0,3%)	11 (3,6%)	185 (61,3%)	104 (34,4%)
Do you work together with the employees to achieve the set goals?	0 (0,0%)	1 (0,7%)	21 (7,0%)	181 (59,9%)	98 (32,5%)
REALIZATION OF SUCCESS					
Are data collected on the realization of set goals?	0 (0,0%)	5 (1,7%)	36 (11,9%)	196 (64,9%)	62 (20,5%)
Are periodic analyses conducted on the realization of goals?	0 (0,0%)	2 (0,7%)	44 (14,6%)	204 (67,5%)	51 (16,9%)
Is the realization of set goals being measured?	0 (0,0%)	1 (0,3%)	51 (16,9%)	191 (63,2%)	58 (19,2%)
After the end of the activity, is a report made on the realization of the goals?	0 (0,0%)	4 (1,3%)	36 (11,9%)	170 (56,3%)	90 (29,8%)
Are the employees informed about the achieved results?	0 (0,0%)	4 (1,3%)	50 (16,6%)	185 (61,3%)	62 (20,5%)
Are performance analyses used as a basis for setting new goals?	3 (1,0%)	4 (1,3%)	44 (14,6%)	190 (62,9%)	59 (19,5%)

Source: Authors

After proving that the questions used for the independent variable correspond to the indicators used, the same procedure was repeated for the dependent variable. In this EFA analysis, the same Varimax method and Kaiser's normalization were used. The results of the factor analysis showed that the questions used are grouped into three factors that explain 61.821% of the variance. The first factor explained 23.530% of the variance, the second factor was 19.404% of the variance, and the third factor explained 18.887% of the variance. The conducted EFA analysis shows that the value of the Kaiser-Meyer-Olkin (KMO) indicator is 0.872, i.e. greater than 0.6, which makes the sample adequate for factor analysis. The value of Bartlett's test of sphericity is $p = 0.000$, which is less than 0.05, which proves that the correlation matrix is suitable for factor analysis.

The results of the correlation analysis showed that all indicators are significantly statistically related. The highest correlation of research indicators is between the indicator of Managerial knowledge and states and experience ($r = 0.571$), while the lowest correlation is between the indicator of Managerial knowledge and realization of success ($r = 0.256$). When looking at the correlation between the indicators of the independent and dependent variables, the highest correlation is between the indicators of Managerial knowledge and Preparation and planning ($r = 0.452$), while the lowest correlation is between the indicators of Managerial knowledge and realization of success ($r = 0.256$). Based on these research results, it can be concluded that there is no excessive connection between the research indicators, so it is possible to continue with the implementation of the second condition. The maximum value of the Mahalanobis deviation in all regression analyses performed is lower than the established tabular value and amounts to 6.310. In addition, the prediction values are in the interval from 2.6371 to 3.0985 and are within normal limits.

Using a multivariate analysis of variance (MANOVA), the difference between the basic characteristics of the research and the research indicators was then examined. When examining the indicator of managerial knowledge, it was proven that three basic characteristics of the respondents influence their answers, namely: gender of the respondents, age and number of employees in the organization from which the respondents come. By observing the impact of the respondents' basic characteristics on the indicator of managerial skills, it was established that these characteristics significantly influence the answers obtained for four characteristics, namely: age, professional qualification, work experience of the respondents and belonging to management. Examining how

the basic characteristics of the respondents affect the answers to questions about managerial attitudes and experience showed that there is an influence of four characteristics of the respondents, namely: professional education, work experience, belonging to management and the number of employees in the organization from which the respondent comes. After carrying out multivariate and univariate (MANOVA and ANOVA) analysis of variance for each of the variables, it was proved that the basic characteristics of the respondents influenced their answers by multiple regression analysis and the hypotheses of the research were examined.

Table 3. Results of multiple regression analysis for the research hypothesis

Summary regression model: $R = 0,503$; $R^2 = 0,253$; Adjusted $R^2 = 0,245$; $F = 33,564$; $p = 0,000$; standard error of estimate $= 0,284$					
Dependent variable:	Standard coefficient		Beta	T-test	Significance
Planning and preparation	B	Standard error			
(Model constant)	1,18	0,181		6,49	0
Managerial knowledge	0,24	0,053	0,29	4,61	0
Managerial skills	0,1	0,058	0,1	1,69	0,093
Attitudes and experience	0,23	0,076	0,2	3,07	0,002
Summary regression model: $R = 0,502$; $R^2 = 0,252$; Adjusted $R^2 = 0,245$; $F = 33,508$; $p = 0,000$; standard error of estimate $= 0,277$					
Dependent variable:	Standard coefficient		Beta	T-test	Significance
Implementation	B	Standard error			
(Model constant)	1,2	0,176		6,8	0
Managerial knowledge	0,11	0,051	0,14	2,22	0,027
Managerial skills	0,26	0,056	0,28	4,56	0
Attitudes and experience	0,21	0,074	0,18	2,76	0,006
Summary regression model: $R = 0,359$; $R^2 = 0,129$; Adjusted $R^2 = 0,120$; $F = 14,705$; $p = 0,000$; standard error of estimate $= 0,397$					
Dependent variable	Standard coefficient		Beta	T-test	Significance
Realization of success	B	Standard error			
(Model constant)	1,56	0,253		6,16	0
Managerial knowledge	0,1	0,074	0,09	1,35	0,178
Managerial skills	0,22	0,081	0,18	2,65	0,009
Attitudes and experience	0,24	0,106	0,16	2,28	0,023

Source: Authors

Based on these analyses, it has been proven that management competencies significantly influence the strategic management of local development of the local community, that is, there is a significant influence, first of all, the influence of management competencies on the preparation, and then on the efficiency and effectiveness of the preparation and implementation of strategic management of local development in Bosnia and Herzegovina.

5. CONCLUSION

In the processes of leading of the local development, where the theory and practice of human resources management are intertwined, a competency-based approach has spread and takes hold of a dominant place. Significant shifts in the economic environment, as well as market demands, have become the catalyst of this change during the last three decades, contributing to its recognition and acceptance. The theoretical and practical studies are intensified, both in the context of local development management and in the context of global economic development.

Management competencies are not only a cornerstone for the strategic management of local communities but also represent a useful tool based on which a specific local community can be defined within its vision and mission, providing a systemic and long-term sustainable approach to its problematic matrix. In addition, the management of the local community must continuously

work to reduce bureaucratic and administrative procedures, to effectively respond to the demands of citizens. Although competencies are very necessary in all stages of the strategic management process, components of competencies such as education, skills, attitudes and experience come to the fore differently in certain stages, not having the same weight in all segments of strategic management of local development. Research indicates that local communities in Bosnia and Herzegovina should start on the path of reflection, learning from the experiences of other local communities, but so that each local community bases its development on its specific human and material resources, internal forces, knowledge and innovations.

The results of the conducted research, based on the scientific methodology that included the detailed definition of the problem, the determination of the relevant research area, the specification of the research goal and the formulation of the research hypothesis, were confirmed and validated through the use of descriptive, factorial, univariate and multivariate analysis. The study was conducted on a representative sample of managers representing twenty-one local self-government units in Bosnia and Herzegovina. The central research hypothesis was confirmed, i.e. it was proven that the competencies, knowledge and skills of managers have a direct impact on the efficiency and effectiveness of strategic management of local development. Without a doubt, a clear connection is established between the competence of managers and the successful implementation of strategic plans in the context of local development. The conducted research, as well as the results that emerged from it, raised several questions related to the influence of managerial competencies on the process of strategic management of development at the local level. To synthesize this knowledge, we will focus on two key questions. First, to what extent does the size of the local self-government unit determine the level of managerial competencies and the approach that managers have towards the strategic management of local development? Second, to what extent does the educational profile of local self-government leaders (such as chiefs or mayors) influence the level of application of strategic management in the context of local development, taking into account that the leaders of municipalities and cities have different educational profiles (economists, lawyers, doctors, engineers, writers, etc.).

The direction of future research efforts should be oriented towards the competencies of management teams in Bosnia and Herzegovina, precisely defined through leadership positions such as chiefs, mayors and heads of various services and departments. It includes a sophisticated probing and systematization of knowledge that encompasses the field of strategic management and local development strategies. Additionally, this implies a detailed and thorough research of each segment of the normative and strategic framework, the development of specific strategies, and their implementation through annual and three-year plans. Added to this is the rigorous monitoring of those strategies through implementation reports and evaluations of the development of local self-government units. In this procedure, it will be extremely important to investigate and critically analyze the relationships between certain competencies that include managerial knowledge, skills, experiences and attitudes, in the specific context of strategic planning in local self-government units in BiH. In this way, an opportunity will be created for a deeper and broader understanding of this complex topic, enabling strategic and efficient navigation and understanding of future directions of development.

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RURAL TOURISM IN THE REPUBLIC OF SERBIA AS A PARAMETER OF SUSTAINABILITY DURING AND AFTER THE PANDEMIC

ABSTRACT

Sustainable development has been incorporated into the discourse and practice of corporate social responsibility since the 1980s, and such a trend has accelerated in the past few years. Sustainable rural tourism is the best way to encourage tourism and promote local development. Sustainable rural tourism development implies that the local milieu has a certain level of participation and control over development processes, as the realization of opportunities and profit from that development, and in order to ensure optimal development, local communities must achieve competitiveness, on multiple levels, in the same time. This study explores the role of rural tourism in Serbia as a measure of sustainability during and after the COVID-19 pandemic. It analyzes the immediate impact of the pandemic on rural tourism, strategies employed for adaptation, and the sector's contributions to local livelihoods, cultural heritage, and environmental conservation. The research underscores rural tourism's potential to drive post-pandemic recovery and promote a more sustainable and resilient tourism industry in Serbia. This manuscript embodies a research initiative that aims to meticulously investigate the role of rural tourism in the Republic of Serbia, not merely as a reaction to the pandemic but as a pivotal force in guiding the country's long-term sustainability objectives.

Keywords: sustainability, rural tourism, pandemic, Republic of Serbia

JEL: O10, R20

INTRODUCTION

Rural areas are a key component of any global tourism conservation strategy of the modern era. Rural tourism provides a key and unique way of fostering a connection between visitors and the values of protected areas, making it a potentially positive force for conservation (Cvijanović &Gajić, 2020). Increased tourism in rural areas implies certain needs for basic infrastructure and demands for employment and human services, all of which have positive effects on the economy, society, culture and environment (Carr, 2020). However, inappropriate and poor management of the development of rural tourism can cause negative impacts on biodiversity, the entire environment and natural landscapes, and the resource base of protected areas. Rural tourism, unlike many extractive industries, requires beautiful natural areas, healthy wildlife and nature, and authentic cultures. Thus, the capacity of rural tourism to generate national income and create jobs can act as a main driver for the preservation and management of untouched natural areas, but on the other hand it can also promote negative ideas about excessive use of resources and additional production of other goods. Tourism has remained the most devastated sector of the world economy during COVID-19 (Nepal, 2020). The severe impact of the pandemic on all aspects of travel and tourism has exacerbated already prevalent sustainability challenges (Qiu et al., 2020). The COVID-19 pandemic has had a profound impact on the global tourism industry, disrupting established

paradigms and necessitating novel approaches to ensure the sustainability of destinations. This study delves into the case of rural tourism in the Republic of Serbia and examines its resilience and adaptability as a key parameter for sustainability both during and post-pandemic. By analyzing the transformation of rural tourism in Serbia amidst the pandemic, this research highlights the sector's capacity to serve as an economic lifeline for rural communities, conserve cultural and natural heritage, and foster sustainable development.

As a research method, we synthesized secondary data available on a wide range of topics relevant to the problem. The literature was searched using PubMed, Scopus, Web of Science, ScienceDirect and Google Scholar. The selection of papers was based on two basic criteria: first, the paper provides the latest and most up-to-date findings on the sustainability of tourism; second, the paper considers the sustainability of tourism in light of COVID-19. Also, the literature related to the issue of the importance of sustainable rural tourism was collected from the author's published research. The statistical data were collected from the website of the Republic Institute of Statistics statistical yearbook for the year 2022 in the Republic of Serbia. Statistical data from the figure were collected from the EUROSTAT website.

The significance of the research is reflected in the theoretical and applied direction. Primarily as a supplement to the existing literature on the development of rural tourism in Serbia. There is still little research that indicates the importance of developing sustainable rural tourism. Also, the results obtained can serve as a starting point for the strategic management of the development of rural tourism by the management, as well as for creating guidelines for the expansion of this form of tourism on the regional and European markets, but all in the direction of sustainability.

Furthermore, the study investigates the role of rural tourism in promoting sustainability by enhancing local livelihoods, preserving cultural traditions, and protecting the environment. The analysis extends to post-pandemic prospects, considering the lasting effects and lessons learned during the crisis. As Serbia reopens its borders and seeks to rebuild its tourism sector, the potential for rural tourism to contribute to a more sustainable, inclusive, and resilient tourism industry is assessed.

The findings of this research provide valuable insights for policymakers, entrepreneurs, and researchers in the field of sustainable tourism and rural development, emphasizing the significance of rural tourism in Serbia not only as a catalyst for post-pandemic recovery but as a vital component of a more sustainable and resilient tourism ecosystem. Ultimately, the study underscores the importance of rural tourism as a parameter for sustainability in the Republic of Serbia and offers a roadmap for leveraging its potential in a changing world.

THEORETICAL BACKGROUND

Rural tourism and sustainable development

Tourism, as one of the biggest drivers of the development of the world economy, requires the necessity of establishing a sustainable and responsible development, in order to achieve all the essential values of the environment, given that today's society is faced with the two most important problems, climate change and poverty (Cvijanović & Gajić, 2020). The World Tourism Organization defines sustainable tourism as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, industry, the environment and host communities" (Lo et al., 2006). All states should support sustainable tourism activities and relevant capacity building that promote environmental awareness, preserve and protect the environment, respect wildlife, flora, biodiversity, ecosystems and cultural diversity and improve the well-being and lives of local communities by supporting their local economies and human and natural environment as a whole (Gajić et al., 2023).

Rural tourism and sustainable development are intrinsically linked concepts that have gained significant attention in recent years. Rural tourism, often referred to as agritourism or countryside

tourism, involves travelers visiting rural areas to experience the countryside, local culture, and traditions. Sustainable development, on the other hand, is a holistic approach that seeks to balance economic, social, and environmental factors to ensure long-term well-being for current and future generations. The intersection of these two concepts can have far-reaching positive impacts on rural communities and the environment (Cvijanović & Gajić, 2020).

Sustainable development of rural tourism implies: optimal use of natural resources while preserving ecological processes, natural heritage and biological diversity; respect for social and cultural values of the community, preservation of cultural heritage and traditional values; long-term planning to improve economic conditions and alleviate poverty, with a constant contribution to social conditions within the community (Quang et al., 2020). One of the important reasons for the integration of tourism in rural areas is to obtain a renewable source of financing with scarce investments. It is important to have a good policy in considering the development of appropriate forms of tourism in rural areas, as well as an accurate understanding of which forms of tourism should be avoided (Cvetković & Janković, 2020). The goals of long-term and sustainable development are there to provide meaningful and educational experiences, also to propose a way of obtaining income for managing the development of natural spaces and tourism in them, but also to avoid endangering the ecological integrity of natural untouched areas of overpopulation, overdevelopment or pollution that tourism can sometimes bring, while ensuring that local communities are involved in tourism development and benefit. Rural tourism is one of the most attractive sources of financing in these areas (Iaquinto, 2020).

What is implied is that rural tourism has the potential to compete financially with other more destructive industries that pose a threat to biodiversity, such as commercial logging, agriculture, and to enable biodiversity to survive amid the growing population and escalating poverty that often surrounds it (Niewiadomski, 2020). Investment in nature protection is almost universal. Rural tourism should protect the area from the destructive effects of other activities: industry, mining, energy, etc., it itself generates a whole series of negative environmental consequences: degradation of the area, banalization of the area, wasted space, various types of pollution, aesthetic change of the landscape, clogging space, destruction of flora and fauna, etc. (Lo et al., 2006). Rural tourism brings significant impacts, physical, economic and cultural, with important positive and negative aspects. Sustainable rural tourism can be defined as a type of tourism that has more benefits than negative impacts, especially in relation to the environment, economy and communities. Truly sustainable and responsible tourism should make destinations better for living and visiting (Gajić et al., 2023).

While sustainable rural tourism is about creating travel opportunities with minimal impact and positive benefits for destinations and their communities, ecotourism is more focused on educating tourists about nature and the environment, as well as travelers participating in conservation and cultural activities. Although ecotourism should always be sustainable, not all examples of sustainable tourism are ecotourism (Petrović, 2021).

Rural tourism and sustainable development exhibit a symbiotic relationship, presenting a promising trajectory for the prosperity of rural regions while concurrently safeguarding their distinctive attributes and ecological integrity. Under the aegis of prudent and conscientious management, rural tourism serves as an instrumental agent of affirmative transformation, thereby substantiating its capacity to foster enduring welfare for both rural communities and the visiting tourists (Gajić et al., 2023).

The impact of the pandemic on the development of sustainable rural tourism

Although the COVID-19 pandemic has devastated tourism, the only positive side is the environmental impact of the reduced number of tourists (Qiu et al., 2020). Many world destinations feel the negative consequences of tourism development and that is why there is more and more talk about sustainable tourism (Fung et al., 2020). Sustainable tourism is a type of tourism that takes full responsibility for all current and future economic, social and environmental impacts it leaves on the

destination, while identifying and meeting the needs of tourists, the tourism industry, the natural environment, hosts and their communities. In simpler terms, sustainable rural tourism is the "smart" management of tourism resources, from cultural values to natural resources (Issahaku, 2020). The outbreak of the COVID-19 pandemic in 2019 has had profound and far-reaching effects on the global tourism industry. Among the various tourism segments, rural tourism has garnered significant attention due to its unique characteristics, potential for sustainable development, and vulnerability to external disruptions. This academic discourse aims to comprehensively examine the impact of the pandemic on the development of sustainable rural tourism, shedding light on the challenges it imposed, the adaptations made, and the prospects for future resilience and sustainability (Gajić et al., 2023). The immediate disruption caused by the pandemic was severe, leading to a sudden decline in tourist arrivals to rural areas. This posed significant economic challenges to rural communities reliant on tourism-related income. Furthermore, rural tourism operations faced the imperative to implement stringent health and safety measures, posing operational and financial challenges. These measures included the need for personal protective equipment, sanitation protocols, and reduced guest capacities. The outbreak of the COVID-19 pandemic in 2019 has had profound and far-reaching effects on the global tourism industry. Among the various tourism segments, rural tourism has garnered significant attention due to its unique characteristics, potential for sustainable development, and vulnerability to external disruptions. This academic discourse aims to comprehensively examine the impact of the pandemic on the development of sustainable rural tourism, shedding light on the challenges it imposed, the adaptations made, and the prospects for future resilience and sustainability (Panettaa, 2020). The immediate disruption caused by the pandemic was severe, leading to a sudden decline in tourist arrivals to rural areas. This posed significant economic challenges to rural communities reliant on tourism-related income. Furthermore, rural tourism operations faced the imperative to implement stringent health and safety measures, posing operational and financial challenges. These measures included the need for personal protective equipment, sanitation protocols, and reduced guest capacities (Uslu et al., 2020).

After the pandemic, the tourism sector in the Republic of Serbia is recovering much faster and better than in the European Union, because according to the data of the Republic Institute of Statistics (RZS), for the first 11 months of 2022, 3.58 million tourists visited Serbia, with 11.4 million overnight stays. That is 53.9 percent more than in 2021 (Statistical Yearbook, 2022). In the first 11 months of 2021, a total of 2.37 million tourists stayed, which is 37 percent more compared to the period from January to November 2020. There were 1.58 million domestic visitors in 2021, which is 22 percent more compared to the same period in 2020, or 67 percent of the total number of guests. There were 86 percent more foreign tourists compared to 2020, i.e. 789,538, which was 33 percent. Due to the corona virus pandemic, there were 49 percent fewer tourists in the eleven-month period of 2020 than in the same period of 2019. Also, there were 24 percent fewer domestic tourists, and 75 percent fewer foreign tourists (Panettaa, 2020). In total, 1.7 million tourists visited Serbia in the pandemic year (Uslu et al., 2020).

Before the corona virus pandemic, from January to November 2019, tourists in Serbia had 9.3 million overnight stays, and 3.4 million tourists came to visit (Cvijanović & Gajić, 2020). The growth of overnight stays then compared to 2018 was about seven percent, while in 2022, compared to 2019, it is an increase of almost 20 percent. The total number of overnight stays in tourist accommodations in 2022 in the European Union (2.72 billion) has approached the level before the corona crisis, i.e. the results from 2019, when there were 2.88 billion overnight stays (Cvijanović & Gajić, 2020).

The total number of overnight stays in tourist accommodations in 2022 in the European Union (2.72 billion) has approached the level before the corona crisis, i.e. the results from 2019, when there were 2.88 billion overnight stays (Haywood, 2020). Although it is a difference of 5.6 percent, data from the EU Statistical Office show that tourism on the Old Continent is also recovering strongly from the corona virus pandemic (Iaquinto, 2020). It is also stated that this represents an increase of more than 90 percent compared to the number of overnight stays in in 2020 (1.42 billion) and

almost 50 percent compared to the number of overnight stays in 2021 (1.83 billion)(Pranali & Vinita, 2020).

Nights spent in EU tourist accommodation, 2022 compared with 2019
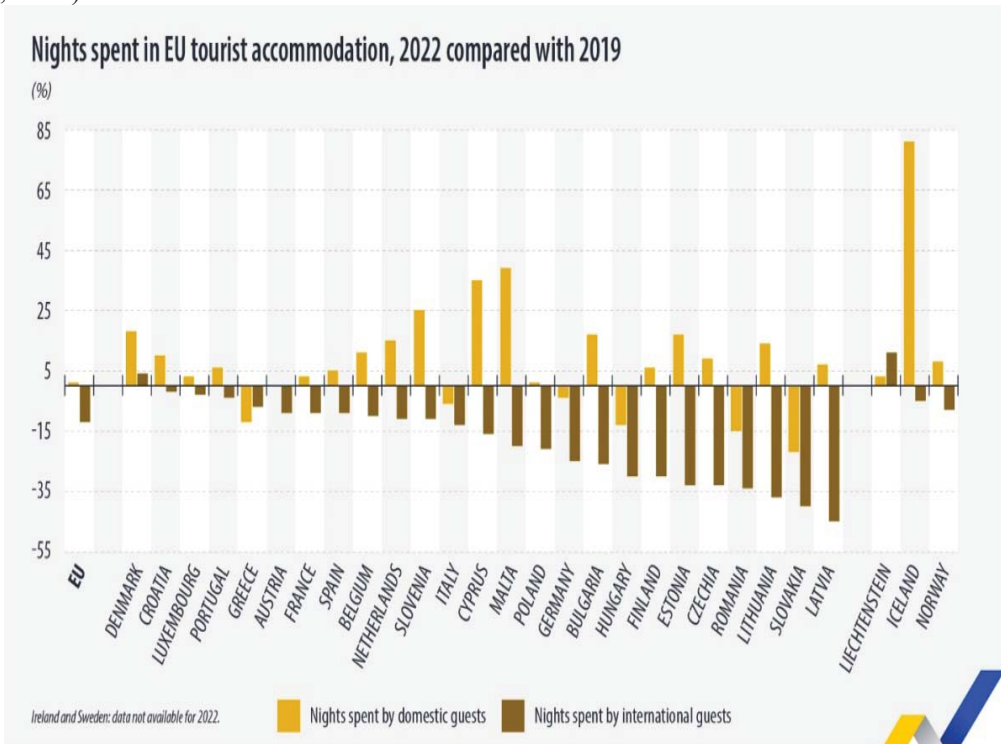
Figure 1. Comparison of the number of overnight stays for 2019 and 2022. Source: www.eurostat.com

Nights spent in EU tourist accommodation, 2020-2022
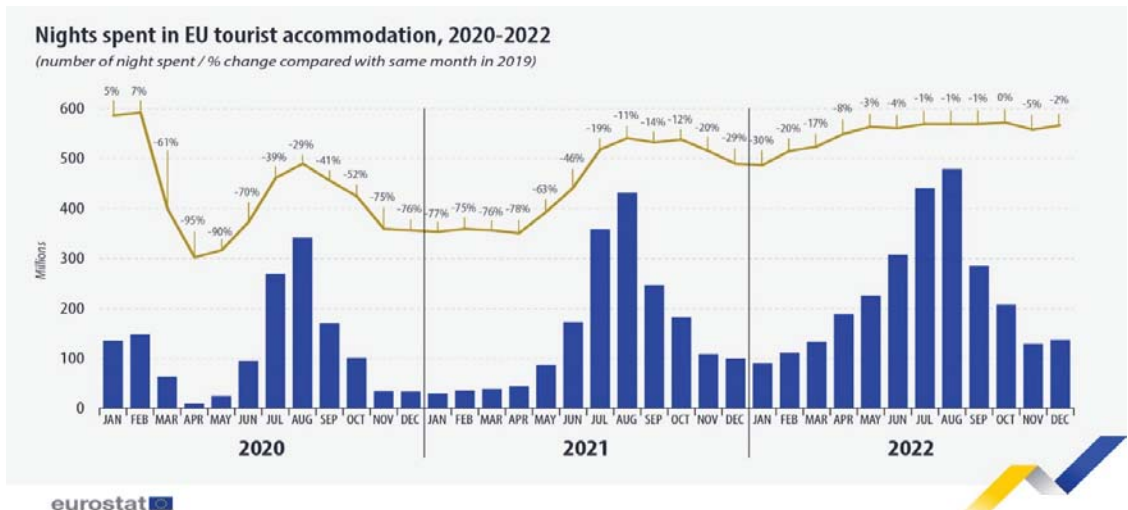
Figure 2. Number of overnight stays during and after the pandemic. Source: www.eurostat.com

The tourism industry was one of the world's largest markets, until the world encountered the pandemic of the 21st century: COVID-19. The pandemic caused by the COVID-19 virus, declared at the beginning of 2020, is the biggest challenge the world has faced since World War II (Cvetković & Martinović, 2020). The impact of the pandemic on the tourism sector can be seen based on a comparative analysis with data from the previous year, for individual months, but also

for the entire period since the beginning of the pandemic. The number of tourist arrivals in the Republic of Serbia in the period from March 2020 to July 2020 compared to the same period of the previous year decreased by as much as 69% (Pavlatos et al., 2021).
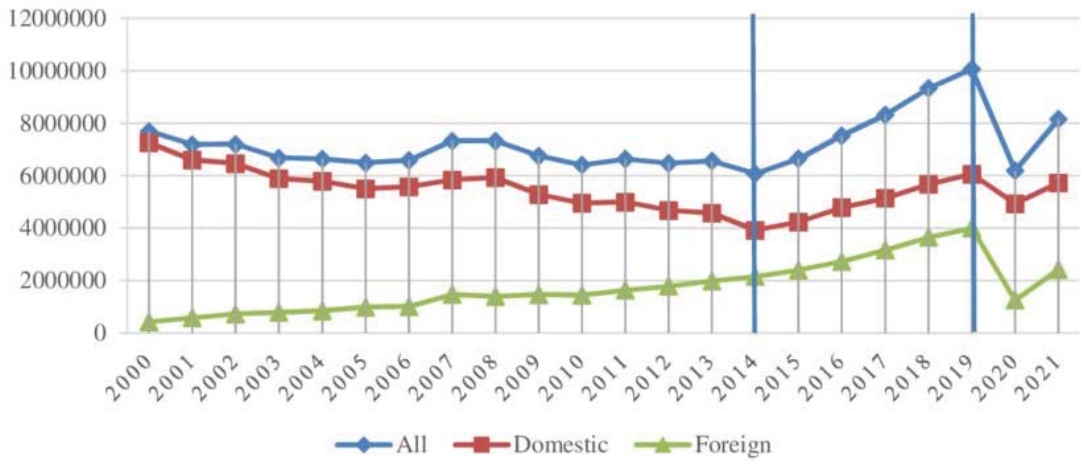

Figure 3. The number of tourists in Serbia from 2000 to 2021. Source: Aleksandar Trajkov, Mirjana Radovic Markovic, Vera Karadjova

Unlike any other industry, the pandemic's devastating impact on tourism requires a sustainable strategy to ensure more resilient and sustainable growth. In addition to the wide range of negative impacts, the crisis caused by COVID-19 can be seen as an opportunity to initiate greater sustainability in the pre-pandemic period of the tourism industry (Haywood, 2020). The sustainable impact of the pandemic requires researched practices for stakeholder decision-making and sustainable development implementation. Policy makers must prioritize green practices to increase resilience and ensure sustainable development of the transforming tourism sector. At this moment, it is imperative to promote actions and initiatives on conservation and rational use of resources (Fung et al., 2020).

Strong models of cooperation and orientation based on sustainability in general levels are in demand like never before; they hide opportunities for innovation, allow new co-developed products to appear and represent a sign of our industrial responsibility, which can be seen as a way to ensure our current existence (Panetta, 2020). Tourism services will have to withstand new hygiene, health and safety requirements arising from the situation with COVID-19, and guests perceive them as a new essential quality. The first effects of sustainability arise as (unintended) "side effects" of the COVID-19 crisis (Fung et al., 2020). For example, the demand to reduce emissions from air traffic has arisen due to a sharp decline in flight traffic (Iaquinto, 2020). There was also a delay in recovery in air traffic; air emissions, traffic is expected to remain reduced for several years. In joint activities, the focus is on the quality of products and services for tourists and promoting the quality of life for the population in the rural destination (Gajić et al., 2023).

CONCLUSION

The research offers critical insights into the evolving landscape of rural tourism in the face of the COVID-19 pandemic. Drawing from a comprehensive literature review and an analysis of the pandemic's influence on the rural tourism sector, several pivotal conclusions emerge. The pandemic has underscored the importance of adaptability within the tourism sector. Rural tourism businesses have demonstrated remarkable resilience by embracing digital technologies, emphasizing safety protocols, and diversifying their service offerings. These adaptive measures are not only crucial for

navigating crises but also possess the potential to enhance the long-term viability of rural tourism in Serbia.

Sustainable rural tourism strategies have gained prominence during the pandemic. The literature review indicates that integrating sustainable practices, including eco-friendly operations and community engagement, can position rural tourism for sustained growth. This sustainable approach not only attracts conscientious travelers but also contributes to the long-term well-being of rural communities and the environment. The research underscores the importance of governmental support and educational initiatives. Policymakers should recognize the value of rural tourism in national development and formulate policies that encourage its growth while ensuring sustainability. Additionally, educational programs can raise awareness about responsible tourism among both tourists and rural communities, fostering mutual understanding and collaboration. The pandemic has catalyzed the adoption of digital technologies in rural tourism. Virtual reality, internet tours, augmented reality, and other innovative solutions have emerged as means to provide engaging and safe experiences for tourists. These technologies should be further integrated into rural tourism operations to enhance visitor satisfaction and safety.

Tourism is a vital economic driver in many countries, with unquestionable positive economic impacts. However, it's important to acknowledge the adverse consequences arising from the industry's exploitation of specific areas. Tourism is among the world's fastest-growing industries, contributing significantly to foreign exchange earnings and job opportunities. Despite these advantages, there are ecological and socio-cultural concerns linked to excessive tourism, particularly during peak seasons.

Nonetheless, tourism is a key element of global culture, fostering exploration of diverse regions, interactions with people from different backgrounds, and exposure to new customs and activities. The COVID-19 pandemic has had a profound impact on the tourism industry, leading to a dramatic reduction in demand, layoffs, and a shift towards innovative digital technologies. This pandemic-induced transformation has accelerated the adoption of sustainable practices and digital solutions in tourism, fostering a more inventive and sustainable dimension. The pandemic's impact on the tourism sector has been substantial, with international tourist arrivals remaining 72 percent below 2019 levels. In light of potential future crises, it's imperative to adopt suitable practices and a conceptual framework for a more resilient and sustainable post-pandemic tourism industry. This research has contributed to the evolving literature on tourism sustainability, emphasizing the need for constant innovation and sustainable development practices. Despite the negative consequences of the pandemic, it has also presented an opportunity to reflect on the environmental and socio-economic consequences of tourism, potentially steering the industry toward a more desirable and sustainable future.

The principal purpose of this research is to discern and underscore the multifaceted role of rural tourism in the Republic of Serbia as a parameter of sustainability during and after the COVID-19 pandemic. It seeks to comprehensively explore how rural tourism in Serbia has been influenced by the pandemic, and more significantly, how it can serve as a catalyst for long-term sustainability, transcending the immediate crisis. This research endeavors to examine the immediate effects of the COVID-19 pandemic on rural tourism in Serbia, encompassing the challenges encountered and opportunities harnessed by the sector during this crisis. It aims to delve into the strategies and innovations adopted by rural tourism stakeholders, both public and private, to adapt and respond to the "new normal" while aligning with sustainable principles. Furthermore, the research seeks to assess the lasting impacts of the pandemic on rural tourism and the potential for rural tourism to underpin Serbia's post-pandemic recovery. It also aims to provide valuable insights to policymakers, entrepreneurs, and scholars in the field of sustainable tourism and rural development, highlighting the significance of rural tourism as a determinant of sustainability in the Republic of Serbia. In essence, this research aspires to transcend the immediate and transient effects of the pandemic, focusing on rural tourism's pivotal role in shaping the long-term sustainability landscape of the Republic of Serbia. By highlighting the connections between rural tourism, economic

recovery, cultural preservation, and environmental conservation, the research seeks to present a roadmap for leveraging the potential of rural tourism in a dynamic and ever-changing world.

Despite its significance, this research is not without limitations. First, it may be constrained by the availability of up-to-date data, especially in the rapidly changing context of the COVID-19 pandemic. Additionally, the research may face limitations in generalizability, as the impact of the pandemic and the role of rural tourism can vary across different regions and contexts. The research may also be influenced by external factors, such as government policies and international travel restrictions. These factors can shape the trajectory of rural tourism in Serbia and affect its sustainability.

This research holds significant theoretical importance by contributing to the fields of sustainable tourism, rural development, and pandemic-related studies. It extends our understanding of the role of rural tourism as a parameter of sustainability during and after the COVID-19 pandemic. By exploring the transformations and innovations in the rural tourism sector, it enriches existing theoretical frameworks for crisis management and sustainable development in the context of tourism. The research establishes a foundation for future academic work to delve deeper into the intricacies of rural tourism's contributions to sustainability, helping to build a more comprehensive body of knowledge in these domains. In practical terms, this research offers several valuable implications. First, it provides practical insights for policymakers, helping them formulate strategies to promote rural tourism as a means of sustainable economic recovery. Additionally, it equips rural tourism stakeholders with innovative strategies and best practices for adapting to the "new normal" in tourism. The research also guides businesses in implementing digital solutions, enhancing safety protocols, and fostering resilience. By emphasizing sustainability, it encourages businesses to integrate responsible and eco-friendly practices into their operations, which can attract conscientious travelers.

This research paves the way for future inquiries in several critical directions. Researchers can delve deeper into the specific strategies and innovations adopted by rural tourism businesses, offering insights into their effectiveness and long-term viability. Comparative studies across different countries and regions can provide a broader perspective on rural tourism's role in sustainability during and after the pandemic. Future research can also explore the nuanced relationship between rural tourism, culture, and environmental conservation, shedding light on the interplay of these elements. This research serves as a stepping stone for ongoing investigations into sustainable tourism and rural development.

For businesses, the research highlights the importance of adaptability, innovation, and sustainable practices in the tourism sector. The insights derived from this research can help businesses navigate future crises and develop strategies to ensure long-term sustainability. Furthermore, by emphasizing the significance of rural tourism in economic recovery and cultural preservation, the research encourages businesses to invest in rural tourism as a strategic avenue for growth and resilience. Ultimately, the findings of this research have the potential to guide businesses in making informed decisions that align with responsible and sustainable tourism practices, catering to the evolving needs and preferences of travelers in the post-pandemic era.

Based on the literature review and the conclusions drawn from this research, the following recommendations are put forward: encourage rural tourism businesses in Serbia to prioritize sustainable practices, such as eco-friendly operations, responsible land use, and community involvement; to support policies that incentivize sustainable tourism development and conservation efforts; rural tourism stakeholders should continue to embrace digital technologies to engage with tourists and enhance their experiences; the development and implementation of virtual and augmented reality tools can provide immersive and safe experiences, particularly in the post-pandemic era; facilitate collaborations between rural tourism businesses and local communities; engage local residents in decision-making processes and empower them to actively participate in and benefit from the economic opportunities provided by tourism; policymakers in Serbia should recognize rural tourism as a key driver of national development and economic recovery; enact policies that facilitate growth and sustainability in this sector and provide financial support and

incentives for rural tourism businesses; educational Initiatives; launch educational campaigns and programs aimed at fostering a culture of responsible and sustainable tourism.

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REGULATORY REFORM POLICIES FOR TOURISM AND HOSPITALITY OF THE FEDERATION OF BOSNIA AND HERZEGOVINA

Abstract

The paper provides a comprehensive insight into the analysis and evaluation of regulatory reform policies for the tourism and hospitality sector in the Federation of Bosnia and Herzegovina. From the perspective of sustainable development, such policies are of the essential importance for these industries. The foundation of this research paper is "White Book of Tourism of the Federation of Bosnia and Herzegovina", which is the result of the study funded by the USAID Sustainable Tourism Development Project in cooperation with the Chamber of Commerce of the Federation of Bosnia and Herzegovina and the Federal Ministry of Environment and Tourism. The paper examines previous academic research related to regulatory reform, tourism competitiveness and the current state of tourism development in the Federation, along with the analysis of the Travel and Tourism Development Index of Bosnia and Herzegovina in comparison with neighboring countries. Our research methodology integrates professional and scientific methods, including internal analysis of secondary data sources and external research using focus groups, expert interviews and surveys. The paper focuses on the results and discussion of the research which translates to measures systematized in four categories, aimed at improving the legislative framework, establishing new institutions, developing strategies and implementing key planning documents for the development of the tourism sector. The aim of the paper is to create an encouraging business environment for the expansion of the private sector in the tourism and hospitality, as well as to identify the advantages that could be created from the reform, including the quality of services improvement, foreign investment and new jobs creation. This paper therefore not only provides a thorough overview of reforms in the tourism sector, but also lays the foundation for future research initiatives aimed at the further development and improvement of tourism and hospitality in the Federation of Bosnia and Herzegovina.

Keywords: tourism and hospitality, regulatory framework, reform, TTDI (Travel & Tourism Development Index), Federation of Bosnia and Herzegovina

JEL: Z32, O21, O14

INTRODUCTION

The analysis and evaluation of regulatory reform policies for the tourism and hospitality sector in the Federation of Bosnia and Herzegovina, which are essential for achieving sustainable development of these industries, are in the main focus of this paper. Recognizing the importance of reform policies, the USAID Sustainable Tourism Development Project in Bosnia and Herzegovina, in cooperation with the Chamber of Commerce of the Federation of Bosnia and Herzegovina and the Federal Ministry of Environment and Tourism, have financed the development of a study entitled "The White Book of Tourism of the Federation of Bosnia and Herzegovina - Policies and Agendas regulatory reforms for tourism and hospitality in the Federation of Bosnia and Herzegovina". This study, which covers in detail the policies and regulatory reform agendas specific to tourism and hospitality in the Federation, is the basis for our research.

At the beginning of the paper, we present the findings of previous academic research related to the regulatory reform, competitiveness of tourism and assessments of the state of tourism development in the Federation of Bosnia and Herzegovina. Furthermore, we analyze the Tourism and Travel Development Index of Bosnia and Herzegovina, comparing the scores and ranks of sub-indexes and indexes with the scores and ranks of neighboring countries. The research methodology combines professional and scientific methods of internal and external research. The internal research included the analysis of available secondary data and information, while the external research included focus group methods, interviews with experts and surveys.

In the paper, we particularly emphasize the results and discussion of the research, based on which we proposed measures systematized into four groups. These measures include: improving the legislative framework relevant to the tourism sector of the Federation of Bosnia and Herzegovina, measures aimed at establishing new institutions and improving coordination among existing actors in the tourism sector, measures aimed at developing tourism strategies in the Federation, and measures aimed at adopting key planning documents and initiatives for improvement of tourism. The central focus of the paper is the creation of a favorable business environment that will enable the prosperity of the private sector in tourism and hospitality. At the same time, we have identified numerous advantages that reform policies can bring, including improving the quality of services, attracting investments and creating new jobs. In the final part of the paper, we present the basic conclusions and confirm the need for an urgent implementation of the proposed measures into actual regulatory reform policies for tourism and hospitality in the Federation of Bosnia and Herzegovina. The goal of this research paper is to improve and facilitate the private sector in the field of tourism and hospitality through the implementation of policies based on the recommendations of this research.

LITERATURE REVIEW

In the context of the global tourism market, the competitiveness of tourism is becoming an increasingly important factor that determines the success and sustainability of tourist destinations. Dwyer and Kim (2003) define the competitiveness of a tourist destination as the destination's ability to effectively use its resources and attractions, while providing sustainable economic, socio-cultural and environmental benefits for the local community. Key elements affecting tourism competitiveness include infrastructure quality, service level, price competitiveness, accessibility and sustainability (Crouch & Ritchie, 1999). Together, these factors shape the perception and experience of tourists, and are crucial for attracting and retaining visitors. In the modern world, where the tourism industry is constantly developing and changing, the ability to adapt and innovate becomes essential to maintain competitiveness. Ritchie and Crouch (2003) emphasize the importance of innovations in products, marketing and destination management as key elements for improving the competitiveness of a tourist destination. On the other hand, Gooroochurn and Sugiyarto (2005) emphasize the importance of political stability, security, health and hygiene standards, and cultural resources as fundamental factors that influence the competitiveness of destinations. Therefore, an integrated approach, that takes into account all these aspects from economic to socio-cultural and environmental, becomes essential if one wants to create and maintain a competitive tourism environment. Considering the competitiveness of tourism in the recent circumstances, it is crucial to point out that the tourism industry is facing rapid changes, especially in terms of technology, sustainability and changing consumer preferences. Hall (2019) points out that technological innovation, such as digitalization and clouding, are key drivers of competitiveness in the tourism industry. These technologies enable destinations to improve their marketing strategies, adapt their offer to contemporary trends and improve the visitor experience. On the other hand, Boes, Buhalis and Inversini (2020) investigate in which ways the sustainable tourism, focused on environmental and social responsibility, is increasingly perceived as the key element of the competitiveness of tourist destinations. In addition, Smith and Puczko (2020) emphasize the importance of creativity and authenticity in the tourist offer, pointing out that

personalized and unique tourist experiences are becoming increasingly important factors in attracting and retaining tourists. In the context of increasing global competition, destinations that can offer unique and authentic experiences, relying on local resources and culture, gain an advantage. Also, Zhang, Ye and Law (2021) investigate the role of social media and online reviews in shaping the perception and competitiveness of destinations, suggesting that digital reach and online reputation play an increasing role in consumer decision making.

Reform policies in tourism have become the central element in the development strategies of tourist destinations around the world. In the modern environment, where tourism faces numerous challenges such as sustainability, digital transformation and changing traveler preferences, reform policies become necessary to preserve competitiveness and sustainability. Buhalis, Costa and Ford (2021) point out that reform policy in tourism should be aimed at integrating digital technologies, encouraging sustainable development, and adapting to changing market conditions. This includes, for example, the adoption of advanced technological solutions such as artificial intelligence and block-chain technology to improve the tourist experience and operational efficiency.

Further, Smith and Xu (2022) emphasize the importance of incorporating sustainable practices into tourism reforms, with focus on the environmental responsibility and socio-cultural sensitivity. In this context, the reform policies are not only related to the introduction of new technologies, but also to the redefinition of tourism policies to ensure environmental protection, local culture promotion and social justice within tourism communities. Another important issue is the development of the sustainable tourism models that can balance economic benefits with ecological and socio-cultural impacts, in order to ensure the long-term sustainability of tourist destinations. These reform policies therefore represent a holistic approach to tourism development, where technological innovation, sustainability and socio-cultural sensitivity are interconnected to create resilient, adaptable and competitive tourist destinations. As the tourism sector continues to evolve, these reform policies will be crucial to shaping the future of global tourism.

The Travel and Tourism Development Index (TTDI), which succeeds the previous Travel and Tourism Competitiveness Index (TTCI), is a key tool for measuring the efficiency and competitiveness of tourist destinations. As Zhang, Ye, and Law (2021) point out, TTDI provides comprehensive insight into various aspects of tourism, including infrastructure, natural and cultural resources, policy and regulatory environment, and business environment and technological promptness. The index evaluates and rates countries based on a wide range of indicators, clearly pointing out their strengths and weaknesses in the tourism sector. This index is important not only for government agencies and industrial planners, but also for investors and operators in the tourism sector, as it provides valuable insights for strategic planning and resource allocation. Contemporary research, such as that conducted by Boes, Buhalis and Inversini (2020), emphasizes that, in addition to traditional factors such as infrastructure and cultural resources, factors such as sustainability and digitalization are increasingly included in TTDI. Special focus is placed on the sustainable development, which is becoming increasingly important in the context of global challenges such as climate change and environmental protection. TTDI therefore becomes a vital tool for monitoring and encouraging progress in these areas. The Index also helps to understand how tourism destinations can adapt and innovate to remain competitive in a rapidly changing global environment, while promoting sustainable and responsible tourism practices.

TTDI is characterized by an improved methodological approach and structure, which includes five sub-indices, 17 pillars, and 112 individual indicators, thus providing a more detailed and comprehensive analysis of the sector. It is important to note that although the five sub-indices serve as a presentation and categorization tool, they are not used in the calculation of the final index. This innovative approach allows for a reduction in bias and an increase in flexibility in the analysis, thus differentiating the TTDI from its predecessor, the TTCI, which used the concept of competitiveness as the primary framework for measuring the development of the travel and tourism sector. TTDI therefore not only measures the current level of development, but also potential drivers of development in tourism and travel, thus contributing to a deeper understanding and better planning of strategies for the sector.

Figure 1 Travel and Tourism Development Index framework

Bosnia and Herzegovina continuously participates in the research of the World Economic Forum on the competitiveness of travel and tourism, enabling a comparative analysis of its Travel and Tourism Competitiveness Index (TTCI) on both the horizontal and vertical levels. In these surveys, the number of participants varied from 117 to 141 countries, with the lowest score for Bosnia and Herzegovina of 3.12 recorded in 2017, and the highest score of 3.78 in 2013, on a scale of maximum 7 points. Despite significant tourism potential and strategic commitments aimed at the development of tourism, it is alarming that Bosnia and Herzegovina has been continuously ranked lower than its neighboring countries over the past 15 years. In addition, according to the Euro monitor report on the sustainable tourism, Bosnia and Herzegovina took 41st place out of a total of 99 ranked countries, which refers to the economic value that tourism brings. This information gains importance when we compare it with Croatia, which was ranked in the 77th place, suggesting that Bosnia and Herzegovina has the potential for development in the sector of sustainable tourism.

Table 1 Position and rating of Bosnia and Herzegovina according to the TTCI and TTDI index

Report	TTCI	TTCI	TTCI	TTCI	TTCI	TTCI	TTCI	TTCI	TTDI
Year	2007	2008	2009	2011	2013	2015	2017	2019	2021
Pillars count	13	14	14	14	14	14	14	14	17
Countries count	124	130	133	139	140	141	136	140	117
BiH position	104	105	107	97	90	-	113	105	95
BiH rating	3,51	3,45	3,44	3,63	3,78	-	3,12	3,30	3,40

The analysis of the key indicators of tourism development, shown in Table 2 for 2021 and 2019, indicates a general decline in all key indicators in 2021, which is primarily related to the impacts of the COVID-19 pandemic, geopolitical tensions and labor shortages. This decline was also highlighted in the Tourism Development Strategy of the Federation of Bosnia and Herzegovina for the period 2022-2027, as well as in the tourism development strategies at the cantonal level, where these indicators were used to achieve strategic goals. In the context of the Travel and Tourism Development Index (TTDI) for 2021, Bosnia and Herzegovina recorded a significant lag when compared to neighboring countries, where it lags behind Croatia by 49 positions, Montenegro by 26 and Serbia by 25 positions.

Table 2 Key indicators of tourism in Bosnia and Herzegovina

Key indicators	TTCI 2019	TTDI 2021
International tourist arrivals	922.400	196.000
Revenues from international tourism (million USD)	826,2	349,5
Contribution to GDP from tourism	541,4	247,8
Participation of tourism in the GDP of the country (as a % of the total GDP)	2,8%	1,3%
Employees in tourism (in thousands)	25,7	22,0
Participation of employees in tourism (as % of total employment)	3,2%	2,7%
Domestic consumption in tourism (as % of domestic consumption in tourism)	-	52,0%

Table 3, which refers to the period from 2019 to the first seven months of 2023, provides comparative data on the number of tourist arrivals and the number of overnight stays, including the specific participation of the Federation of Bosnia and Herzegovina in these figures. These quantitative data are of essential importance for the analytical consideration of the tourism industry, enabling a thorough understanding of the trends in tourist traffic during the mentioned period. The analysis of these indicators provides key insights into the dynamics of tourism activity, which is crucial for decision-making in the tourism sector and the adjustment of strategies for the development of the tourism industry.

Table 3 Comparative overview of tourist arrivals in Bosnia and Herzegovina and the Federation of Bosnia and Herzegovina

Year	Bosnia and Herzegovina			Federation of BiH			% Federation of BiH		
	Tourist arrivals			Tourist arrivals			Tourist arrivals		
	total	domestic	foreign	total	domestic	foreign	total	domestic	foreign
2019	1.641.201	442.982	1.198.219	1.226.975	255.606	971.369	74,8%	57,7%	81,1%
2020	500.916	304.038	196.878	305.890	176.996	128.894	61,1%	58,2%	65,5%
2021	971.302	469.357	501.945	666.698	288.589	378.109	68,6%	61,5%	75,3%
2022	1.464.216	556.690	907.526	1.024.182	338.132	686.050	69,9%	60,7%	75,6%
2023. I-VII	938.744	299.471	639.273	658.080	181.978	476.102	70,1%	60,8%	74,5%

In the analysis of the Travel and Tourism Development Index (TTDI) for the year 2021, Bosnia and Herzegovina, Croatia, Serbia and Montenegro show different results in terms of travel and tourism development. Bosnia and Herzegovina, with a total TTDI index score of 3.40, ranks 95th out of 117 countries. It can be seen that Bosnia and Herzegovina achieved the lowest score in the sub-index of Travel and Tourism Demand Drivers (1.7) and Infrastructure (2.8), while it recorded the best score in the sub-index of the Enabling environment (4.3). In contrast, Croatia, with an overall score of 4.2, ranks a high 46th, with significant results in areas such as Enabling Environment (4.9) and Tourist Service Infrastructure (6.4). Serbia and Montenegro also show solid results, with scores of 3.8 and 3.9, ranking 70th and 69th respectively. These data indicate significant differences in the development of tourism among these countries. Bosnia and Herzegovina faces challenges such as underdeveloped tourism infrastructure and limited resources to attract tourist demand, while Croatia leads the way given the better and an incentive environment. Serbia and Montenegro achieve more balanced results, with a relatively good rating in most areas. These results suggest the need to review and improve tourism policies and measures, especially in Bosnia and Herzegovina, in order to improve its position on the TTDI index.

Table 4 Structure, scores and rating of the TTDI index of Bosnia and Herzegovina, Croatia, Serbia and Montenegro

	Bosnia and Herzegovina		Croatia		Serbia		Montenegro	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank
TTDI index 2021	3,4	95/117	4,2	46/117	3,8	70/117	3,9	69/117
Subindex A – Enabling environment	4,3	78	4,9	50	4,9	52	4,8	56
Pillar 1 - Business Environment	3,0	109	3,2	106	3,8	65	3,7	80
Pillar 2 - Safety and Security	5,4	62	6,0	21	5,7	42	5,7	39
Pillar 3 - Health and Hygiene	4,9	58	5,8	27	5,6	34	5,3	45
Pillar 4 - Human Resources and Labour Market	3,5	97	4,1	71	4,2	67	4,3	62
Pillar 5 - ICT Readiness	4,6	76	5,5	43	5,1	53	5,1	58
Subindex s B – Travel and Tourism Policy and Enabling Conditions	3,8	101	4,4	47	4,2	83	4,3	66
Pillar 6 - Prioritization of Travel and Tourism	3,3	98	4,3	39	3,2	102	4,6	28
Pillar 7 - International Openness	2,6	93	4,7	38	4,1	50	3,4	74
Pillar 8 - Price Competitiveness	5,4	47	4,3	92	5,3	54	5,0	73
Subindex C - Infrastructure	2,8	88	4,5	21	3,5	62	3,9	44
Pillar 9- Air Transport Infrastructure	2,2	104	3,2	62	3,2	60	2,6	85
Pillar 10 - Ground and Port Infrastructure	2,8	95	4,1	36	3,7	56	3,5	62
Pillar 11 - Tourist Service Infrastructure	3,5	63	6,4	1	3,6	61	5,7	8
Subindex D – Travel and Tourism Demand Drivers	1,7	106	4,1	57	1,8	95	1,5	112
Pillar 12 - Natural Resources	1,7	96	4,5	25	1,6	104	1,8	92
Pillar 13 - Cultural Resources	1,8	101	2,8	36	2,1	77	1,5	115
Pillar 14 - Non-Leisure Resources	1,6	87	1,9	68	1,9	67	1,2	108
Subindex E - Travel and Tourism Sustainability	3,7	94	4,1	57	4,0	73	4,2	53
Pillar 15 - Environmental Sustainability	3,5	105	4,5	25	3,8	78	4,0	64
Pillar 16 - Socioeconomic Resilience and Conditions	4,4	50	5,1	31	4,4	51	4,5	42
Pillar 17 - Travel and Tourism Demand Pressure and Impact	3,3	112	2,8	117	3,7	93	4,0	64

The analysis of the Travel and Tourism Development Index reveals significant variations in the ratings and rankings of the various pillars that influence the development of tourism in Bosnia and Herzegovina. Pillars related to non-leisure resources (Pillar 14, score 1.6, rank 87), natural resources (Pillar 12, score 1.7, rank 96), and cultural resources (Pillar 13, score 1.8, rank 101) were rated low, highlighting the insufficient utilization of these key elements in tourism. Air traffic infrastructure (Pillar 9, score 2.2, rank 104) and international openness (Pillar 7, score 2.6, rank 93) also scored relatively low, indicating challenges in these segments. Ground and port infrastructure (Pillar 10, score 2.8, rank 95) and business environment (Pillar 1, score 3.0, rank 109) received moderate scores, indicating a need for improvement. Pillars such as the prioritization of travel and

tourism (Pillar 6, score 3.3, rank 98), the Travel and Tourism Demand Pressure and Impact (Pillar 17, score 3.3, rank 112), human resources and the labor market (Pillar 4, score 3.5, rank 97), tourist Service Infrastructure (Pillar 11, score 3.5, rank 63), environmental sustainability (Pillar 15, score 3.5, rank 105), and socioeconomic resilience and conditions (Pillar 16, score 4.4, rank 50) vary in ratings and ranks, highlighting different levels of effectiveness. The pillars of ICT readiness (Pillar 5, rating 4.6, rank 76), health and hygiene (Pillar 3, rating 4.9, rank 58), safety and security (Pillar 2, rating 5.4, rank 62) received the highest marks), and price competitiveness (Pillar 8, score 5.4, rank 47), which indicates that these segments are relatively strong aspects in the context of tourism development. These variations in ratings and rankings provide insight into key areas that require focus and improvement for the further development of the tourism sector.

RESEARCH METHODOLOGY

Research on the topic "Policies of regulatory reform for tourism and hospitality in the Federation of Bosnia and Herzegovina" was conducted using a combination of professional and scientific methods of internal and external research. The internal part of the research included the analysis of available secondary sources of data and information, while the external research included focus group methodologies, interviews with experts, and surveys.

Focus groups were organized in the five cities of Federation of Bosnia and Herzegovina (Travnik, Tuzla, Mostar, Sarajevo and Bihać) and group discussions included representatives of business entities and institutions from the tourism sector, including hotels, restaurants, tour operators, national parks and places of tourist interest, rural tourism representative, adventure tourism service providers, and tour guides. 95 members participated in the focus groups. The aim of these focus groups was to provide deeper insights into the complexity of tourism development and its competitiveness.

The interview method, which included fifteen experts from the tourism sector of the Federation of Bosnia and Herzegovina, enable researchers to obtain detailed insights necessary for understanding and improving the state of tourism sector. This method contributed to increasing the validity and reliability of research in tourism, enabling in-depth analysis of specific topics. Discussions with experts highlighted key challenges and opportunities in the tourism sector, including the need for infrastructure improvements, the development of sustainable tourism, and the promotion of cultural heritage.

Questionnaire surveys were used for detailed and systematic data collection on the experiences, attitudes and preferences of tourists, local residents and the business environment. A structured questionnaire enabled the collection of valuable information. The respondents, 150 of them from all ten cantons in the Federation of Bosnia and Herzegovina, were asked to review 60 indices that received below-average scores in the Travel & Tourism Development Index (TTDI), and to propose concrete measures or activities for each index, which could contribute to an increase in the rating and rank of the index and the competitiveness of tourism in the Federation of Bosnia and Herzegovina. Also, respondents were asked to identify relevant institutions at different administrative levels that should be in charge of implementing the proposed recommendations.

RESULTS AND DISCUSSION

The tourism sector of the Federation of Bosnia and Herzegovina faces a number of challenges that significantly affect its competitiveness. According to relevant studies and reports, it is noted that there is a low level of competitiveness in this sector, which is the result of numerous legal and regulatory obstacles within the Federation of Bosnia and Herzegovina and within cantons. Also, the

lack of visibility of the Federation of Bosnia and Herzegovina as a tourist destination, the poor quality of tourist products, services and infrastructure, as well as the lack of professional staff, make business in tourism even more challenging. In order to improve this unfavorable business environment, it is necessary to urgently adopt the Reform Agenda for Tourism and Hospitality in the Federation of Bosnia and Herzegovina, which is based on a detailed analysis of the institutional, legislative and strategic framework, and aimed at identifying key measures and responsible institutions for their effective implementation. This process assumes the improvement of the legislative framework specific to the tourism sector, the establishment of new institutions and the improvement of coordination among the existing stakeholders in tourism, as well as the development and implementation of strategies for the progress of this sector. Additionally, the activities on the adoption of key strategic documents and the launch of various initiatives aimed at the comprehensive improvement of the tourism sector in the Federation of Bosnia and Herzegovina are being undertaken, in order to set a solid foundation for sustainable development and improvement of the competitiveness. In the following, we present the proposed measures based on the conducted research, being systematized into four groups.

Measures to improve the legislative framework relevant to the tourism sector of the Federation of Bosnia and Herzegovina

In order to enhance the development of tourism and increase the competitiveness in the Federation of Bosnia and Herzegovina, a number of legislative measures have been proposed that include a wide range of aspects relevant to the tourism sector. These measures include the adoption of a new Law on Tourism, Law on Residence Tax and Law on Hospitality, which are crucial to structuring and regulating the basic elements of the tourism industry. Special emphasis was also placed on labor legislation, with the proposal of the Law on the Work of Regular Students and Pupils, as well as amendments to the Law on Higher Education, aimed at improving working conditions for students. Additionally, the importance of spatial planning and ecological aspects is emphasized, with proposals for amendments to laws on spatial planning, environmental protection, air protection, waste management and forests. These proposals are focused at preserving natural resources and promoting sustainable development, which is central to the long-term attractiveness of tourist destinations. Also, within the framework of the fiscal policy, amendments to the Law on Fiscal Systems are proposed, aiming at simplifying the process of collection and payment of services in the tourism sector. A new Law on Contributions and the Law on Income Tax were proposed, which should lead to a reduction of fiscal burdens for business entities in the tourism and hospitality industry, which would improve their competitiveness and stimulate the growth of the sector. Together, these measures represent a comprehensive approach to improving the regulatory framework of the tourism sector, with the clear goal of creating a more favorable business environment, encouraging investments and ensuring the sustainable development of tourism in the Federation of Bosnia and Herzegovina

Measures aimed at establishing new institutions and improving coordination among existing stakeholders in the tourism sector of the Federation of Bosnia and Herzegovina

Within the policies of regulatory reform of tourism development in the Federation of Bosnia and Herzegovina, special attention is given at establishing new institutions and improving coordination among existing ones. A key measure in this context is the establishment of a coordination mechanism between the different levels of government from entity level to local levels. This approach focuses on harmonizing tourism policies and initiatives, which is essential for creating a cohesive and efficient tourism sector. The establishment of the Tourist Board of the Federation of Bosnia and Herzegovina and the Institute for Tourism represents a strategic step towards the centralization of resources, knowledge and experiences for the purpose of promoting tourism and

developing tourism products and services at a higher level. The establishment of e-Visitor, a unique online information system is an innovative initiative that aims to connect all tourist communities within the Federation. This system enables more efficient management of tourist flows, a better understanding of tourists' preferences and behavior, and provides an opportunity to improve marketing strategies and adjust the tourist offer. This approach has already proven successful in neighboring countries, such as Croatia, where e-Visitor contributed to better monitoring of tourist trends and more efficient administration of tourist revenues. Additionally, the reducing the illegal tourism sector is an important aspect of the reforms. The grey zone of the economy in tourism, which includes activities such as illegal accommodation, selling souvenirs, guide services and taxi transport outside the formal tax system, significantly affects the proper functioning of the tourism market and tax revenues. Similar challenges have been noted in neighboring countries, where certain measures have been taken to integrate these activities into the formal sector. For example, in Montenegro and Serbia, steps have been taken to register informal entities and include them in the legal framework, thereby increasing transparency and fairness in the sector. Therefore, incentive policies aimed at reducing the informal sector in the Federation of Bosnia and Herzegovina can contribute not only to increasing state revenues, but also to improving the quality of tourist services and the overall image of the destination.

Measures aimed at the adoption of tourism development strategies in the Federation of Bosnia and Herzegovina

In the context of the policies of the regulatory reform of tourism development in the Federation of Bosnia and Herzegovina, the proposed measures for the adoption of comprehensive strategic documents are of key importance. The proposed "Tourism Development Strategy of the Federation of Bosnia and Herzegovina 2022-2027" is a fundamental document that will guide all aspects of tourism development in the next five years. This strategy, together with sector tourism development strategies at the cantonal level, serves as a framework for coordinated and targeted action at all levels of government. Such an approach ensures that local resources are being efficiently and effectively used, taking into account the specificities of each canton, while at the same time maintaining the compliance with goals and standards set at the entity level. The adoption of "Environmental Protection Strategy of Federation of Bosnia and Herzegovina 2022-2023" and "Agriculture and Rural Development Strategy for Federation of Bosnia and Herzegovina 2021-2027" is also vital for the development of tourism. These strategies play a key role in preserving natural wealth and improving rural tourism, which is especially important in the context of promoting sustainable tourism. The implementation of measures from these strategies can significantly contribute to the attractiveness of the Federation of Bosnia and Herzegovina as a tourist destination, while protecting its natural and cultural resources. In the wider context of the countries of the region, the importance of strategic planning in tourism has been repeatedly confirmed. Countries such as Croatia, Slovenia and Montenegro have already adopted similar strategic documents, which have enabled them to quickly adapt to changing trends in tourism, improve the quality of services and infrastructure, and promote sustainable development. These strategies not only facilitate investment attraction and tourism infrastructure development, but also help identify and address challenges such as seasonality and overcrowding. The adopted strategies in the region served as a model for the development of tourism that balances between economic growth and environmental preservation, thus setting standards for sustainable development and competitiveness in the global tourism market. Therefore, the implementation of strategic documents in the Federation of Bosnia and Herzegovina represents a key step towards achieving long-term sustainability and competitiveness of the tourism sector, in accordance with the best practices and experiences of countries in the region.

Measures aimed at the adoption of key planning documents and various initiatives for the improvement of tourism in the Federation of Bosnia and Herzegovina

The development of tourism in the Federation of Bosnia and Herzegovina requires a comprehensive approach through various measures of regulatory reform, which include the adoption of key planning documents and various initiatives for the improvement of the sector. In this context, the adoption of the "Spatial Plan of Federation Bosnia and Herzegovina (2008-2028)" and the revision of destination master plans are of vital importance. These documents ensure that tourism development is aligned with long-term spatial and infrastructural plans and meets the needs at all levels of development. Strengthening the institutional capacities of the statistical system and their alignment with EU standards are also key to providing reliable data that are necessary for informed decision-making and monitoring trends in tourism. Creating a catalog of investment opportunities in tourism, including public-private partnership opportunities, represents a significant step towards attracting investments and developing tourism infrastructure. Similar initiatives have already been implemented in EU countries, where public-private partnerships have played a key role in the development of tourism infrastructure. Defining incentive mechanisms for the legalization of illegal tourism service providers is another important aspect, which will contribute to reducing the gray economy and increasing state revenues. The establishment of the Environmental Protection Information System, the increase in the surface area of protected areas, and the implementation of measures from the Strategy for adaptation to climate change and low-emission development of Bosnia and Herzegovina for the period 2020-2030, are measures that will contribute to the preservation of natural resources and the promotion of sustainable tourism. These measures are alligned with global trends and practices in EU countries, where sustainability has become a central aspect in the development of tourism. Furthermore, the plan for the development of health tourism, the education of personnel in the tourism sector, the establishment of a registry for the field of tourism and hospitality, and incentives for travel agencies and airlines are important for improving the quality of services and increasing the competitiveness of the tourism sector. These measures reflect the practice in neighboring countries and the EU, where education, quality of services and connection to global markets are essential for the success of the tourism sector. Finally, initiatives such as submitting applications for the UNESCO list of natural and cultural heritage, increasing visibility on TripAdvisor and Google Maps, and establishing sustainable development of tourism through the synergy of the public and private sectors, represent modern approaches that will ensure that the Federation of Bosnia and Herzegovina is recognized as an attractive and competitive tourist destination. destination on an international level.

CONCLUSION AND RECOMMENDATIONS

In the final part of this research paper, the basic conclusions derived from the analysis of policies and regulatory reforms in the tourism and hospitality sector of the Federation of Bosnia and Herzegovina are outlined. The proposed reform agenda reflects a holistic approach in identifying and addressing the key challenges that gravitate to this sector. Emphasis is placed on the development and implementation of a series of measures, including legislative changes, strategic planning and the establishment of new institutions, with the aim of improving the tourism sector.

The necessity of effective coordination between entities, cantons and local authorities is emphasized in order to achieve better integration and synergy in the promotion and development of tourism. In this context, the adoption of key legal regulations was proposed, including the Law on Tourism, the Law on Residence Tax, the Law on Hospitality, as well as the Law on the Work of Students and Pupils. As part of regulatory reform policies, special emphasis was placed on establishing new institutions and improving coordination among existing institutions, with a focus on establishing coordination mechanisms at different levels of government. This approach is aimed at harmonizing

tourism policies and initiatives, crucial for creating a cohesive and efficient tourism sector. A strategic step in this direction is the establishment of the Tourist Board of the Federation of Bosnia and Herzegovina and the Institute for Tourism, which represents the centralization of resources, knowledge and experience for the purpose of promoting tourism at a higher level. The establishment of e-Visitor, an innovative online information system inspired by the Croatian model, represents a key initiative for connecting all tourist communities within the Federation. This system enables more efficient management of tourist flows, a detailed understanding of tourists' preferences, and provides a platform for improving marketing strategies and adjusting the tourist offer.

The analysis of 60 indicators of the Tourism and Travel Development Index of Bosnia and Herzegovina, distributed in 12 pillars from 5 sub-indices, indicated below-average scores for BiH. With a detailed review of the state of each index individually, and recommendations for its improvement, the report illustrates the weaknesses, but also the potentials that the Federation of Bosnia and Herzegovina possesses. Concrete measures and activities were proposed to improve the sub-index ratings, with the aim of achieving a better position and ranking, which demonstrates the efforts of the Federation of Bosnia and Herzegovina in developing tourism and attracting tourists. Through the implementation of policies based on these recommendations, the goal could be achieved - to improve and facilitate the business of the private sector in the field of tourism and hospitality. This research contributes to the overall development and progress of the tourism and hospitality industry in the Federation of Bosnia and Herzegovina, laying the foundations.

Based on the analysis and conclusions presented in this research paper, it is possible to identify several areas that offer opportunities for further research. The first recommendation, evaluation of the effectiveness of implemented laws and policies: after the proposed measures and laws are implemented, it is important to carry out a detailed evaluation of their effectiveness. This would include an analysis of how new regulations and policies have influenced the improvement of the competitiveness of the tourism sector in the Federation of Bosnia and Herzegovina, as well as their impact on economic growth, employment and the quality of services of tourism companies. The second recommendation is to conduct research that compares the reforms in tourism and hospitality in the Federation of Bosnia and Herzegovina with those in neighboring countries. This would provide insight into how regional trends and practices affect the local tourism industry, and how competitiveness in the international market can be improved. The third recommendation is to focus on the long-term effects of implemented tourism policies on sustainable development in the region. This would include an analysis of the impact of tourism on the environment, socio-cultural aspects of communities and economic sustainability.

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REPRESENTATION OF ELEMENTS OF STRATEGIC MARKETING PLANNING IN COMPANIES WITH THE PARTICIPATION OF FOREIGN CAPITAL IN BOSNIA AND HERZEGOVINA

Abstract

The aim of this paper is to explore the representation of certain aspects of strategic marketing planning in Bosnian and Herzegovinian enterprises with foreign capital. The paper emphasizes the determination of the stability of the difference between recipients and non-recipients of foreign capital in terms of various types of plans, elements of strategic marketing planning and key indicators of the success of marketing activities implementation. The research delves into the impact of foreign direct investments on strategic marketing practices and examines how these factors contribute to overall market performance. By investigating these dynamics, the paper aims to provide insights into the relationship between foreign capital infusion and strategic marketing strategies, shedding light on potential distinctions in planning and performance outcomes among Bosnian and Herzegovinian enterprises in this context. Descriptive statistics and inferential statistics (t-tests) are utilized to compare means between enterprises with foreign capital and those without, shedding light on various aspects of strategic marketing planning. Considering the positive influence of foreign investors on internal enterprise processes through the transfer of tangible and intangible resources, the research results show that investments in Bosnian and Herzegovinian enterprises enhance their strategic marketing planning processes. Statistical analysis reveals statistically significant differences in observed variables measuring the success of strategic marketing planning, favoring the experimental group over the control group. This suggests that the experimental group implements strategic marketing planning more efficiently and effectively.

Keywords: Foreign direct investment, strategic marketing planning, market presence, Bosnian and Herzegovinian enterprises

JEL: L1, O19, M31

INTRODUCTION

The secret of successfully managed enterprises lies in the ability of their management to notice and predict changes in the environment, which are reflected in the success of their business, before their competitors do. It is therefore inevitable that enterprises must adapt to changes in the environment, regardless of whether they are easily predictable or very uncertain and unpredictable. However, the success of some enterprises differs from the failure of others precisely in the management's ability to predict and react more efficiently to as many changes (both predictable and unpredictable) in the environment as possible. By noticing and predicting changes on time, the impact of negative effects on the success of an enterprise's market performance is mitigated. Therefore, we may state that the success of a strategist lies in the way they react both in an unfamiliar and in a familiar situation.

Different approaches to defining foreign direct investments (Foreign Direct Investment - FDI) may be found in literature. According to the World Trade Organization (WTO), FDI is realized when an investor based in one country (country of origin) acquires property in another country (host country) with the intention of managing that property, considering that it is a business enterprise, that is, the investor is the "parent enterprise", and the asset abroad is the affiliate or subsidiary (WTO, 1996, p. 5). For the United Nations, FDI represents the ownership and control of production and service capacities outside the investor's home country (Czinkota, 2004, p. 142). The conceptual definition of FDI was also dealt with by Jovanović&Gavrilović; Kozomara, Stefanović, Vidas-Bubanja, Burnazović, and others.

Since FDI is a form of investment in which the investor secures the right of ownership, control and management over the enterprise in which the funds are invested, for the purpose of realizing some long-term economic interest (Hadžović, 2002, p. 49), the management of the enterprise is exposed to the need for continuous research and analysis of the process in the environment, as well as, anticipating their consequences in order to harmonize its business activities with a timely reaction that will result in better business results than the competition achieves.

Therefore, experience and knowledge, which individuals and business entities acquire in addition to capital through the realization of foreign investments and the implementation of their business ventures in a changing business environment, may be extremely important in the realization of future business activities and the realization of a better market positioning. Therefore, the task of the strategic manager of all enterprises, even those that have foreign capital in their structure, is reflected in the timely detection of the arrival of these changes, determining the causes of their occurrence, and preparing adequate activities that would represent the enterprise's reaction to them. According to the above, we may conclude that the source of success and better market positioning of an enterprise lies in an adequate business strategy of that enterprise. Therefore, the subject of this research is defining and determining the representation of elements of strategic marketing planning in Bosnian and Herzegovinian enterprises that are recipients of foreign capital.

LITERATURE REVIEW

Role and significance of applying the concept of marketing strategies in business operations of enterprises with the participation of foreign capital

We have witnessed that, in addition to the current complex and turbulent environment, some enterprises achieve better business results than their competitors. That is, they react better to changes from the environment. The reason for their successful business, among other things, lies in the creation and implementation of a successful business strategy. Considering the fact that marketing decisions play a key role in building and improving an enterprise's market performance, the need of the enterprise's management to create an adequate marketing strategy, through which the enterprise will achieve its previously defined goals, is understandable. Therefore, we may state that, for the successful management of an enterprise's business processes, it is necessary to establish a connection between marketing and enterprise's strategy, since it forms the basis of determining long-term goals and actions by which the enterprise is guided from the present to the desired future position. Carrying out its business activities in modern business conditions and often outside the borders of its country, an enterprise whose goal is to create a competitive advantage and strengthen its market position must have a strategic approach to marketing, but also a marketing approach to strategy when designing a marketing strategy.

Renko observes marketing strategy from the two aspects which differ the following (Renko, 2005, p. 9):
- Marketing strategy as a process that leads the marketing plan towards the creation of marketing strategy,
- Marketing strategy as a concept of competitive advantage, that is, an enterprise's access to a certain market in a way as to achieve better results than their competition.

It is important to emphasize that there is no recipe that enterprises should follow when making business decisions. However, adherence to certain principles and techniques that exist may greatly help strategic decision makers to successfully deal with unpredictable and unknown situations, and to possibly use them to their advantage.

Unlike Renko, Milisavljević justifiably distinguishes between marketing management and strategic marketing. For this author, strategic marketing decisions have long-term consequences for an enterprise's strategic position on the market, while on the other hand, marketing management is necessary for the daily implementation of an enterprise's marketing activities (Kohli, A. K, Jaworski, 1980, p. 15).

According to this author, the purpose of strategic marketing is reflected in the design of business processes in a way that enables an enterprise to achieve the desired market performance. In order to reach the realization of defined goals, management of enterprises with the participation of foreign capital must provide answers to many questions related to strategic marketing. Some of them are as follows (Milisavljević, 2010, p.25):
- Should an enterprise continue realization of the existing business activities, or should those activities be expanded according to the activities of an investor?
- Which products and markets from the existing portfolio enable an enterprise its further growth and development (that is, to which products and markets will a recipient enterprise's portfolio expand)?
- Which new products and markets of an investor would contribute to the achievement of competitive advantage of a recipient enterprise?
- Which products and markets should be taken out of the recipient enterprise's portfolio?
- Which products/services should be repositioned by an enterprise? And,
- How to conduct (re)allocation of an enterprise's resources onto certain products and activities of an enterprise?

From the previously mentioned, we may see that the process of strategic marketing planning has a key role in providing answers to the challenges faced by enterprises with the participation of foreign capital in the conditions of turbulent business environment and growing competitiveness. Therefore, it is necessary for marketing managers to identify opportunities and threats on the market in a timely manner, and to accordingly define a strategy, and through its implementation, improve an enterprise's market performance.

Considering the fact that the final judgment about an enterprise and its products is made by the final consumers, it is quite understandable that the management of an enterprise must pay special attention to the analysis of their needs and requirements, since the business success of that enterprise depends on the satisfaction of the consumers. In order for an enterprise to be able to respond to the demands and needs of consumers more efficiently than its competitors, it is necessary to harmonize the requirements of the environment with the enterprise's available resources. Harmonization of the aforementioned elements is achieved through the process of preparation and implementation of the marketing strategy. Adequately conceived and implemented

marketing strategy is a strong tool for enterprise's management to create its own competitive advantage and market long-term value to consumers.

The strategic marketing activity of an enterprise's management ensures the continuous collection of data on both external and internal trends in business processes, as well as their analysis, and this makes it possible to consider various strategic options in a timely manner and choose adequate solutions that will provide the enterprise with the improvement of its market performance and strengthening its market position. In approaching strategic activities, it is very important to harmonize the available resources with the requirements of the target market, where it is important to meet the given requirements better/more profitably than the competition (Ćivić, 2011, p.18).

Based on the previously mentioned, we may conclude that a well-created and implemented marketing strategy is the basis for quality management of an enterprise's business process and improvement of its market performance.

Specifics of the strategic marketing planning process

In order for an enterprise to be able to spot changes in the environment that determine its operations, that is, to make its future more certain, it is necessary that planning based on a systemic approach be the basis of its operations. Namely, it is important to emphasize here that the subject of planning should be all aspects of business activity in an enterprise.

Planning marketing activities involves a series of coordinated and connected steps that aim to define marketing goals and find appropriate ways to achieve them. The mentioned steps, among others, include the situational analysis and identification of enterprise's strengths and weaknesses, followed by the definition of the mission and general business goals. After this step, a business strategy is formulated, from which specific marketing activities and tasks should result. This complex process ends with the evaluation of the planned marketing activities. It is especially important to emphasize that the process of planning marketing activities must be viewed as part of the overall process of planning an enterprise's operations. However, if we consider that marketing decisions contribute to the improvement of the market performance of an enterprise, planning marketing activities is extremely important.

The process of strategic marketing planning should be a generator of enterprise's business success, that is, a generator of feasible strategies that aligns an enterprise's available potential with consumer demands, the state of competition and macroeconomic trends in order to improve enterprise's market performance (About the effects of macroeconomic factors on the strategic marketing planning of foreign enterprises, see: Shahzeb, Sayed Fayaz, 2020, p. 185-193).

The product of strategic planning is a plan, a document in which the goals pursued by an enterprise, as well as the budgets for their execution, are precisely indicated and elaborated. Therefore, we may say that the strategic marketing plan is the basic instrument for directing and coordinating strategic marketing decisions. Creating a marketing plan requires providing the necessary inputs from both internal and external sources. Various organizational departments of an enterprise (accounting, finance, and such) are considered internal sources of input, while external inputs are provided by the implementation of marketing research and marketing information processes.

Different authors state different approaches in specifying the steps to be taken during the strategic planning of marketing activities. Thus, Milisavljević presents the approach advocated by *McGee and Spiro*. Analyzing the approach advocated by *McGee and Spiro*, we may observe that when planning an enterprise's marketing activities, marketers must first identify its strengths and weaknesses, as well as the opportunities and threats of the environment, and then define that

enterprise's mission and goals. Based on this, the enterprise's business strategy would then be defined, from which the marketing goals should be derived. The previous steps will be the basis for formulating a marketing strategy, from which the formulation of specific marketing plans will result, followed by their implementation.

Nevertheless, *Renko and McDonald,* in their publications, present a different order of activities that should be undertaken in the process of planning marketing activities, with the fact that there is essentially no difference in the type of activities that should be undertaken (McDonald, 2004, p. 60).

Implementing strategic marketing planning and designing a marketing strategy is ultimately very complex. In this process, marketing managers, marketing experts and other participants in the process of creating a marketing strategy face numerous challenges, such as the need for continuous analysis of the environment, competition, market trends, changes in consumer behavior, but also to assess one's own strengths and weaknesses. To carry out all these activities, it is necessary to engage specialized know-how and generate an adequate information base, which requires a lot of time and money. However, considering that through realizing foreign investments, in addition to capital, enterprises gain more modern technical-technological, organizational, marketing know-how, it may be assumed that this will result in conducting the process of strategic marketing planning better and more successfully than others, which will in turn result in strengthening the competitive advantage and, ultimately, improvement of market performance of recipient enterprises. In their paper *"The Marketing implications of foreign direct investment in private Hungarian firms"*, Graham and colleagues analyze the impact that foreign direct investments have on the access to business of capital recipients, the creation and implementation of their business strategies, and the improvement of their business performance. (Hooley, Cox, Shipley, Beracs & Kolos, 1995, p. 7). The study of Marinov and Marinova, who analyze the key motives and marketing strategies applied by foreign enterprises when doing business in the emerging markets of Central and Eastern Europe, also seems interesting (for more details see: Marinov & Marinova, 2000, p. 21).

There is an evident deficit of research on the impact of FDI on strategic marketing planning in general, but especially in developing countries such as Bosnia and Herzegovina. Therefore, research into the influence of FDI on the improvement of the process of strategic marketing planning in Bosnian and Herzegovinian enterprises receiving foreign capital is considered justified, based on which the following hypotheses are set.

H_1 - Recipients of foreign capital in Bosnia and Herzegovina follow and create more plans than their competitors (non-recipients of foreign capital).
H_2 - Recipients of FDI in Bosnia and Herzegovina base their strategic planning of marketing activities os a greater number of elements compared to domestic Bosnian and Herzegovinian enterprises (non-recipients of FDI).

RESEARCH METHODOLOGY

The primary research for the purposes of this paper was conducted using the method of written examination, where a questionnaire was used as a form of data collection. Data was collected based on a simple random sample. The population of the research was represented by 95 enterprises that are recipients of foreign direct investments in the amount over 10 million BAM.The invitation to participate in the research was answered by 32 respondents (33.68%) who submitted a completed questionnaire form. This group of subjects represented the experimental group in the research. The

control group also consisted of 32 respondents who are not recipients of foreign direct investments (domestic Bosnian and Herzegovinian enterprises).

RESULTS AND DISCUSSION

Considering that through the realization of foreign direct investments, capital recipients, among other, receive more modern organizational knowledge that should improve their entire process of strategic marketing planning, and further in this paper, we will look at the representation of certain types of plans and certain elements of strategic marketing planning among the subjects of the experimental and control groups and determine the existence of a statistically significant difference between them according to the mentioned characteristics.

Based on the research conducted among the experimental group of respondents (Bosnian and Herzegovinian enterprises with foreign capital participation in their structure), we may conclude that the representation of planning (as a formal process) is at an extremely high level, while this is not the case with the control group of respondents. The above is confirmed by the results of the existence of certain types of plans at the surveyed enterprises. Namely, from Graph 1, we may observe that all respondents of the experimental group (in formal form) have a procurement, sales, and financial plan, while this is not the case with the control group of respondents. In this group, only 56.25% have a procurement plan, and 68.75% of them have a sales plan and an enterprise's financial plan. The least number of respondents from both groups stated that there is a plan for the implementation of promotional activities in their enterprises. The percentage of enterprises from the experimental group that have this plan is 81.25%, while this plan is represented in only 43.75% of cases in the control group of respondents. A comparative overview of the representation of other types of plans is presented in the following chart.

Graph 1.: The structure of the representation of certain types of plans (in formal form) among respondents of the experimental and control groups
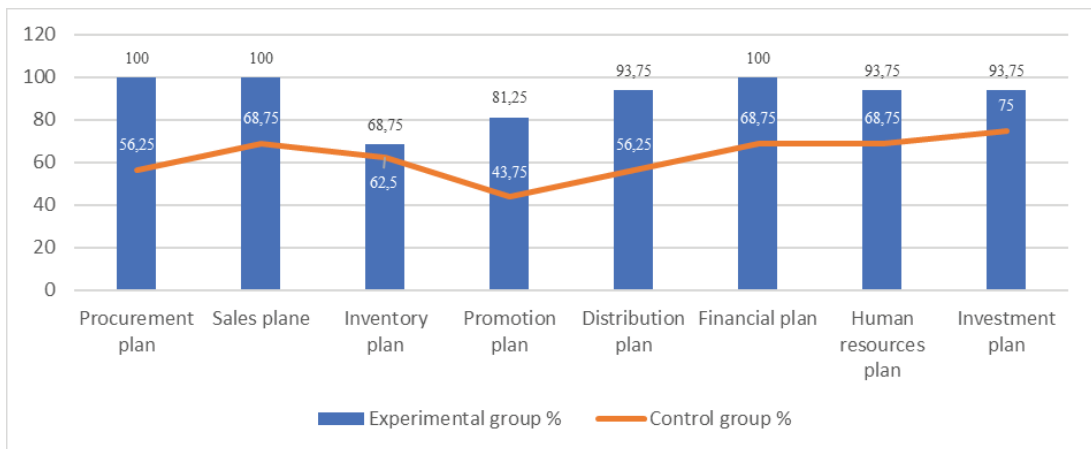
Source: Authors' creation based on the primary research

To determine whether there is a statistically significant difference between the subjects of the experimental and control groups regarding the representation of individual plans, we will conduct a $\chi2$ analysis. The results of the analysis are presented in Table 1.

Table 1.: Assessment of dependence between the group of respondents and the representation of certain types of plans

| Variables | Groups of respondents Modalities experimental group, control group | | | | |
	Tabl. value χ2	Calculated value χ2 or Cal. val. of Yates correction	H_0	C	V
Are there documents that define a *procurement plan* in the enterprise? *Modalities: yes, no, don't know*	p=0.05→ 3.841	Sig.=0.000 15.451	No	0.468	0.529
Are there documents that define a *sales plan* in the enterprise? *Modalities: yes, no, don't know*	p=0.05→ 3.841	Sig.=0.002 9.600	No	0.395	0.430
Are there documents that define an *inventory plan* in the enterprise? *Modalities: yes, no, don't know*	p=0.05→ 5.991	Sig.=0.853 0.317	Yes	0.070	0.070
Are there documents that define a *promotion plan* in the enterprise? *Modalities: yes, no, don't know*	p=0.05→ 5.991	Sig.=0.005 10.800	No	0.380	0.411
Are there documents that define a *distribution plan* in the enterprise? *Modalities: yes, no, don't know*	p=0.05→ 5.991	Sig.=0.002 12.333	No	0.402	0.439
Are there documents that define a *financial plan* in the enterprise? *Modalities: yes, no, don't know*	p=0.05→ 3.841	Sig.=0.002 9.600	No	0.395	0.430
Are there documents that define a *human resources plan* in the enterprise? *Modalities: yes, no, don't know*	p=0.05→ 3.841	Sig.=0.025 5.026	No	0.305	0.320
Are there documents that define an *investment plan* in the enterprise? *Modalities: yes, no, don't know*	p=0.05→ 3.841	Sig.=0.085 2.963	Yes	0.250	0.258

Note:
H_0-There is no relationship between the two observed variables (the two variables are independent)
C-Contingency Coefficient
V-Cramer V Coefficient
(V coefficient: 0-0.3 → weak dependency; 0.3-0.6 → moderate/medium dependency; over 0.6 → strong dependency between variables)

Source: Authors' creation based on the primary research

Analyzing the results of the conducted χ2 test, we may conclude that there is a statistically significant difference between the experimental and control group of respondents regarding the representation of certain types of plans. The mentioned difference does not exist only in the case of the inventory plan and the investment plan; however, this difference is evident in all other plans. As the results of Cramer's V coefficient in most cases exceed the values of 0.3, we may also establish that the dependency between the observed variables is moderate (medium). Considering that the experimental group of respondents has a larger number of plans in formal form, and that the representation of them is greater in this group of respondents, we may conclude that the realization of FDI contributes to the improvement of the planning of business activities of recipient enterprises in Bosnia and Herzegovina.

If we analyze the representation of certain elements of strategic marketing planning among the subjects of the experimental and control groups, the results presented in Table 1 show that out of the

total number of subjects of the experimental group, 81.25% of them declared that there is a special organizational sector (department) in their enterprise for planning marketing activities, while 12.5% do not have that sector. Furthermore, 87.50% of them have a document containing a strategic marketing plan, while 12.5% of them do not have that document. If we look at what these respondents based their strategic marketing plan on, we see that out of 87.50% of respondents who have a strategic marketing plan as a formal document, 93.75% of its implementation is based on an assessment of the enterprise's market potential. Nevertheless, considering the control group of respondents, we see that 56.25% of the respondents of this group declared that they have a special department for planning marketing activities, and only 50% of them have a document with a strategic marketing plan, which is not a satisfactory situation. In addition to the low representation of strategic marketing planning, the fact that only 31.25% of the employees of this group of respondents have a copy of the marketing plan or are familiar with its content is devastating. It is also important to state that in the case of 43.75% of respondents of the control group who have a marketing plan, its implementation is based on an assessment of the enterprise's market potential.

It is important to emphasize that the subjects of the experimental group collect data on changes in the environment more regularly. All of them regularly collect data on the economic environment, while 93.75% of them stated that they regularly collect information on market trends, the position of their competitors and the satisfaction of their clients. On the contrary, the control group of respondents regularly collects data on market trends and the market positioning of their key competitors, while only 25% of them regularly monitor socio-cultural trends and changes in the political environment.

We may conclude from the above that foreign investors, when deciding to invest in a specific foreign market, pay special attention to relevant aspects of the international marketing environment. It is this experience that differentiates foreign investors from domestic enterprises in terms of understanding the specific weight of different dimensions of the business environment, that is, their influence on the investment venture. More detailed data on the representation of individual elements of strategic marketing planning in the experimental and control group of respondents may be seen in the following table.

Table 2.: The structure of representation of individual elements of strategic marketing planning in the experimental and control group of respondents

Question	Experimental group of respondents				Control group of respondents			
	Total				Total			
	Yes	No	Don't know	Σ	Yes	No	Don't know	Σ
In your enterprise, there is a special organizational sector (department) that deals with the planning and implementation of marketing activities carried out by your enterprise	81.25	12.25	6.25	100.00	56.25	37.50	6.25	100.00
Your enterprise has a document containing a plan of strategic marketing activities	87.50	12.5	0.00	100.00	50.00	50.00	0.00	100.00
Are the employees in managerial positions in the enterprise familiar with the content of the	81.25	12.5	6.25	100.00	31.25	43.75	25.00	100.00

strategic marketing plan, or does each of them have a copy of the plan?								
In your enterprise, is the creation of a strategic marketing plan based on an assessment of market potential?	93.75	0.00	6.25	100.00	43.75	43.75	12.50	100.00
Does the strategic marketing plan of your enterprise show the market situation and the current position of the enterprise on the market?	75.00	6.25	18.75	100.00	43.75	43.75	12.50	100.00
Does your enterprise's strategic marketing plan contain information about the enterprise's internal strengths and weaknesses	75.00	12.50	12.50	100.00	31.25	43.75	25.00	100.00
Do you in your enterprise regularly collect and analyze data on:								
Economic environment	100.00	0.00	0.00	100.00	56.25	37.50	6.25	100.00
Political environment	50.00	37.50	12.50	100.00	25.00	56.25	18.75	100.00
Legal environment	81.25	6.25	12.50	100.00	62.50	31.25	6.25	100.00
Technical-technological development	87.50	6.25	6.25	100.00	62.50	37.50	0.00	100.00
Demographic environment	50.00	25.00	25.00	100.00	31.25	50.00	18.75	100.00
Socio-cultural trends	25.00	37.50	37.50	100.00	25.00	62.50	12.50	100.00
Market position of competitors	93.75	6.25	0.00	100.00	81.25	18.75	0.00	100.00
Market trends	93.75	0.00	6.25	100.00	81.25	18.75	0.00	100.00
Consumer satisfaction levels	93.75	0.00	6.25	100.00	75.00	25.00	0.00	100.00

Source: Authors' creation based on the primary research

The results of the χ2 test presented in Table 3 show that there is a significant difference between the experimental and control groups of respondents in terms of the representation of certain elements of strategic marketing planning.

Table 3. Assessment of dependency between the group of respondents and the representation of individual elements of strategic marketing planning.

Variables	Groups of respondents Modalities: experimental group, control group				
	Tabl. value χ2	Calculated value χ2 or Calc. val. of Yates correction	H_0	C	V
Existence of a special organizational sector for planning and realization of marketing activities. *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.065* 5.455	**Yes**	0.280	0.292

				C	V
Existence of a document containing a plan of marketing activities. *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 3.841	*Sig.=0.003* 8.800	**No**	0.375	0.405
Familiarity of employees in managerial positions with the content of the strategic marketing plan. *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.000* *17.444*	**No**	0.463	0.522
Is creating a marketing plan based on an assessment of market potential? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.001* 13.667	**No**	0.419	0.462
Is the current position of the enterprise on the market shown in the enterprise's marketing plan? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.002* 12.032	**No**	0.398	0.434
Does the enterprise's marketing plan contain information about the enterprise's internal strengths and weaknesses? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.002* 12.654	**No**	0.406	0.445
Does the enterprise regularly collect and analyze data on the economic environment? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.000* 17.920	**No**	0.468	0.529
Does the enterprise regularly collect and analyze data on the political environment? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.118* 4.267	**Yes**	0.250	0.258
Does the enterprise regularly collect and analyze data on the legal environment? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.034* 6.783	**No**	0.310	0.326
Does the enterprise regularly collect and analyze data on technical-technological development? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.005* 10.476	**No**	0.375	0.405
Does the enterprise regularly collect and analyze data on the demographic environment? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 7.815	*Sig.=0.205* 4.589	**Yes**	0.259	0.268
Does the enterprise regularly collect and analyze data on socio-cultural trends? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.050* 6.000	**No**	0.293	0.306
Does the enterprise regularly collect and analyze data on the market position of competitors? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 3.841	*Sig.=0.257* 1.286	**Yes**	0.186	0.189
Does the enterprise regularly collect and analyze data on market trends? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.016* 8.286	**No**	0.339	0.360
Does the enterprise regularly collect and analyze data on customer satisfaction levels? *Modalities: yes, no, don't know*	$p=0.05\rightarrow$ 5.991	*Sig.=0.005* 10.667	**No**	0.378	0.408

Note:
H_0-There is no relationship between the two observed variables (the two variables are independent)
C-Contingency Coefficient
V-Cramer V Coefficient
(V coefficient: 0-0.3 → weak dependency; 0.3-0.6 → moderate/medium dependency; over 0.6 → strong dependency between variables)

Source: Authors' creation based on the primary research

Namely, analyzing the results presented in the previous table, we conclude that there is no statistically significant difference between the observed groups of respondents if we are talking about: the stability of the organizational sector (department) for planning and implementing marketing activities, collecting and analyzing data on the political and demographic environments, and monitoring market positions of competitors, while in all other cases this difference is statistically significant.

However, although there is no statistically significant difference between the observed groups in four of the fifteen observed elements of strategic marketing planning, we may draw the final conclusion that there is still a significant difference between the experimental and control groups of respondents regarding the representation of the remaining elements of strategic marketing planning and that this dependency is moderate.

CONCLUSIONS

Based on the theoretical elaboration and the obtained research results, it may be concluded that all respondents of the experimental group have a procurement, sales and financial plan, while this is not the case with the control group of respondents. The least number of respondents from both groups stated that there is a plan for the implementation of promotional activities in their enterprises. Analyzing the results of the conducted χ2 test, we may conclude that there is a statistically significant difference between the experimental and control groups of respondents regarding the representation of certain types of plans. The mentioned difference does not exist only in the case of the inventory plan and the investment plan, while this difference is evident in all other plans. Considering that the experimental group of respondents has a larger number of plans in formal form and that the representation of them is greater among this group of respondents, we may draw the conclusion that the implementation of FDI contributes to the improvement of planning business activities of recipient enterprises in Bosnia and Herzegovina.

Considering the fact that foreign investors improve an enterprise's internal processes through the transfer of tangible and intangible resources, the conducted research showed that the investments made in Bosnian and Herzegovinian enterprises improved their processes of strategic marketing planning. In 11 out of a total of 15 observed variables with which we measured the success of the strategic marketing planning process, we determined the existence of statistically significant differences between the subjects of the experimental and control groups. Considering that this difference was in favor of the experimental group, we concluded that this group of respondents implements strategic marketing planning more efficiently and effectively. The experimental group of respondents continuously monitors and creates more plans than the control group of respondents, and the strategic planning of marketing activities is based on a greater number of elements compared to the control group of respondents. When deciding to invest in a specific foreign market, foreign investors pay special attention to the relevant aspects of the international marketing environment. It is this experience that differentiates foreign investors from domestic enterprises in terms of understanding the specific weight of different dimensions of the business environment, that is, their influence on the investment venture. Future research should focus on analyzing the effects that certain FDI modalities have on strategic marketing planning. It would be interesting to see in which activities FDI contributes the most to the improvement of strategic marketing planning and business performance of enterprises.

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THE ANALYSIS OF DEVELOPMENT OF TALENT MANAGEMENT ACTIVITIES IN SERVICE ENTERPRISES IN BOSNIA AND HERZEGOVINA

ABSTRACT

Talent management is an approach to human resource management that places emphasis on employees with highly developed skills, extensive knowledge, and valuable experience, upon whom the success of a company depends on when placed in key positions. Various models of talent management have been presented in theory and applied in practice. Most of them involve a set of activities that certain authors consider part of talent management. In this paper, the author proposes a talent management model consisting of nine types of activities, grouped into three categories: preparatory activities of talent management, key activities of talent management, and support activities.

Although this approach to managing key employees has been evolving globally for several decades, it remains largely unknown in Bosnia and Herzegovina. There is a very small number of companies implementing talent management, and even among those that do, not all activities encompassed by it are fully developed. In the second quarter of 2023, a study was conducted in 120 service companies in Bosnia and Herzegovina, aiming to examine the presence of each individual activity in companies that confirmed having a developed talent management system. The results showed that companies primarily focus on talent attraction as one of the preparatory activities of talent management and talent development as one of the support activities, while other activities are somewhat neglected.

Keywords: Talents, Talent management, Talent management activities

JEL: M12, O15, M5, M51

INTRODUCTION

In today's business world, characterized by rapid changes, intense competition, and accelerated technological development, the imperative becomes finding the best way to manage human resources in order for companies to operate successfully. One particularly developed area within human resource management is talent management, an approach focused on the most valuable employees within the company who are expected to contribute to achieving organizational goals and delivering positive business results through maximizing their engagement.

Although talent management has been evolving worldwide for several decades, it is not widely known in Bosnia and Herzegovina. Therefore, there is ample room for research in this area. This

paper aims to present the current state of talent management development in Bosnia and Herzegovina, focusing on service enterprises, after introducing theoretical knowledge about defining the concept of talent and talent management, presenting existing talent management models, conceptualizing a new model, and conducting empirical research.

This paper serves as a starting point for further research in the field of talent management because further consideration can be given to improving the existing situation only by determining the current state in the field, focusing on the identified gaps. The paper provides both theoretical and empirical contributions by summarizing the theory on important aspects of talent management and depicting the development of this management system concerning the most important employees within the company.

LITERATURE OVERVIEW

Talent and talent management

The term "talent" is ubiquitous across all spheres of life. From magazine covers, Internet blogs, and social media to business bulletins, we are regularly exposed to this term, for which we sometimes cannot precisely explain the meaning, especially when placed in a business context. In the book Global Talent Management, Gallardo-Gallardo (2013, p. 9) notes that in 2006, an intriguing review was published in The Economist, stating that companies neither know how to define the concept of talent nor how to manage it. Since then, the focus on talents has only increased, and although there are still certain ambiguities in defining the term, foundations for talent management have been established and will continue to be developed in the future.

The term "talent" originates from ancient Greece, from the term "talanton," which represented a unit of weight measured in gold or silver (Gallardo-Gallardo, 2013, p. 34). Over the years, various authors have provided different definitions of talent, some of which can be seen in the table.

Table 1. Defining the Concept of Talent

Definition of talent	Author
Talents represent a resource encompassing the current and potential capacities of individuals and groups within an organization or those who might join the organization in the future.	Boudreau, J. W., Ramstad, P. M., 2007. as found in Bahtijarević-Šiber, 2014, p. 163
Talents are individuals who, by demonstrating their highest potential or through their personal contributions, impact the success of the organization.	Tansley, C. and others, 2007, as found in Bahtijarević-Šiber, 2014, p. 163
Talents are individuals who possess specific or exceptional skills, knowledge, and abilities, as well as the potential for learning and advancement, significantly contributing to the development of the organization and thereby becoming a crucial source of competitive advantage.	Bahtijarević-Šiber (2014, p. 163)
Talents are individuals who have the ability to significantly influence the success of the organization, both in the present and in the future.	Morton, L., 2005., as found in Bahtijarević-Šiber, 2014, p. 163
Talents are the most important employees, namely innovative and creative knowledge workers.	Caligiuri i DiSanto (2001, p. 28)
Talents are individuals who can make a difference in organizational performance, whether through their direct actions or, in the long term, by demonstrating a high level of potential.	Tansley and others (2007, p. 268)

Source: Authors' creation

As with the definitions of talent, the same applies to defining talent management. Bahtijarević-Šiber (2014, p. 164) states that talent management is a comprehensive and integrated system of a series of interconnected human resource management activities aimed at attracting, motivating, developing, and maximizing the use of all potentials of individuals with exceptional knowledge and abilities who are of strategic importance to the organization in achieving sustainable competitive advantage, further development, and success. Additional definitions can be seen in the following table.

Table 2. Defining the Concept of Talent Management

Definition of talent management	Author
Talent management is the process of acquiring and nurturing talent through all available means, regardless of where they are and where they need to be.	Baron, A. and Armstrong, M., (2007) as found in Bahtijarević-Šiber, (2014, p. 164)
Talent management represents ensuring that the right people are placed in the right positions within the organization and that their potential is fully utilized for the organization's success.	(Philips, J.J.; Edwards, L., 2008., as found in Bahtijarević-Šiber, 2014, p. 164)
Talent management can be seen as a bridge that connects various human resource management activities related to talents.	(Mathis, R.L.; Jackson, J.H., 2008., as found in Bahtijarević-Šiber, 2014, p. 164)
Talent management is a process whose primary aim is to increase the number of talented employees and utilize them flexibly, all toward the goal of successful business operations.	(Baron, A,; Armstrong, M., 2007., as found in Bahtijarević-Šiber, 2014, p. 164)
Talent management entails hiring the most intelligent and capable individuals solely for leadership positions, but over time, its importance has expanded to other organizational levels within the company.	Al Ariss and others (2014, p. 174)
Talent management represents placing the right people with the right skills in the right position at the right time.	Leisy and Pyron (2009, p. 141)
Talent management consists of seven initiatives: recruitment, leadership and potential development, workforce planning and succession, measurement and feedback, retention, professional development, and culture.	Ramu (2017, p. 60)

Source: Authors' creation

Talent management models

Many authors have defined talent management through the depiction of activities that should be part of talent management, essentially representing various talent management models. The following table presents the mentioned models.

Table 3. Talent Management Models

Definition of talent management	Author
Talent management represents intensified attraction, development, and retention of key human resources.	Mathis and Jackson (2008, as found in Bahtijarević-Šiber, 2014, p. 164)
Talent management entails the attraction, identification, engagement, retention, and development of individuals critical to the organization.	(Tansley, C. 2007., as found in Bahtijarević-Šiber, 2014, p. 164)
Talent management is the process of attracting, recruiting, and retaining talented individuals.	Creelman (2004, p. 29)
Talent management is a set of internal and external continuous processes. External processes include attraction and selection, while internal processes encompass retention and development.	Knez (2004, p. 233)

Talent management involves attracting, hiring, retaining, and developing talented employees, with the identification of key positions within the company as a crucial element of this process, which should subsequently be filled by talented individuals.	Collins and Clark (2003, p. 744)
Talent management consists of seven initiatives: recruitment, leadership and potential development, workforce planning and succession, measurement and feedback, retention, professional development, and culture.	Ramu (2017, p. 60)
Talent management begins with the development of a strategy, followed by identifying talent gaps, succession planning, and only then do activities such as recruitment, selection, education, motivation, and retention of talented employees follow, which these authors classify as one element.	Whelan and Carcary (2001, p. 677)
Talent management is a set of activities involving the identification, assessment, development, and retention of talents, which must be aligned with both the business strategy and the human resources strategy.	Berger and Berger (2011, p. 4)
Talent management represents a set of activities and processes that involve systematic identification of key positions for achieving competitive advantage, followed by the development of a talent pool with high potential and performance to fill the previously identified positions, as well as the development of appropriate human resource architecture to facilitate the filling of these positions with competent personnel and ensure their ongoing commitment to the organization.	Collings and Mellahi (2009, p. 305)

Source: Authors' creation

Considering that none of the models is considered universal, for the purpose of research in this paper, talent management is viewed as a set of three groups of activities: preparatory activities, key activities, and support activities. Each group of activities consists of three activities, and regardless of their position in the model, they are equally necessary and important for the effectiveness of talent management. The following diagram illustrates the talent management model developed by the authors for the purposes of this research.
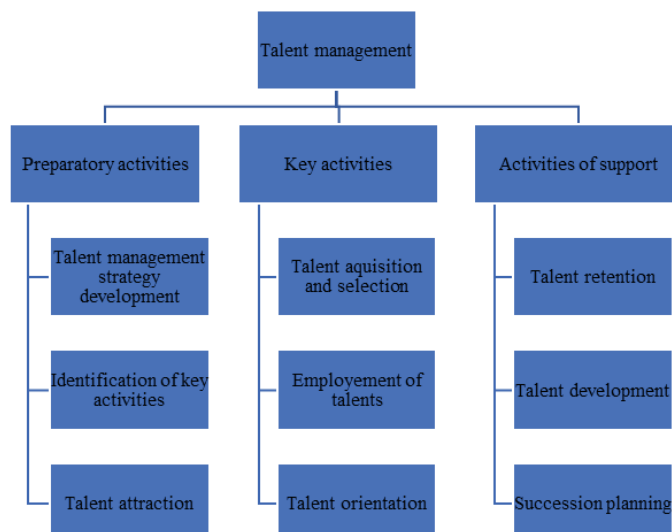
In the previously depicted talent management model, preparatory activities encompass three types of activities: development of talent management strategy, identification of key positions, and talent attraction. Working on the development of a talent management strategy represents the starting point for the implementation of talent management in organizations. Bahtijarević-Šiber (2014, p. 165) confirms the importance of this activity and states that before all other activities, the talent management strategy should be developed first, followed by its alignment with the organization's strategy. Identifying key positions is a crucial activity in talent management because, as Huselid et al. (2005, p. 1) note, companies cannot afford to have talents in all positions; instead, it is necessary to select the most critical positions where placed talents will bring the greatest benefit. Excellent workforce consists of excellent workers (Huselid et al., 2005, p. 110), so the importance of talent attraction activities, specifically knowledge workers with rare skills, is one of the most critical activities for organizations (Aguinis et al., 2012; Holcombe-Ehrhart & Ziegert, 2005; Tarique & Schuler, 2010, as cited in Schlecter et al., 2014, p. 2). One of the main ways to attract talents is, as Bahtijarević-Šiber (2014, p. 171) suggests, building a recognizable employer brand, which encompasses all human resource management activities and overall organizational efforts aimed at creating an impression of a desirable employer and a pleasant workplace, and transmitting such an image to the public.

Within the key activities, talent acquisition and selection, employment, and talent orientation are included. These activities are called key because they are at the core of the talent management process. They are crucial because they bring talents into the organization, but preparatory activities and support activities are no less important because only together can they bring about the desired results. Talent acquisition encompasses all activities that enable interested individuals to apply for open positions in sufficient numbers and with appropriate qualifications (Mondy, 2008, as cited in Bahtijarević-Šiber, 2014, p. 184), after which selection can follow, that is, the selection of the most competent candidate according to pre-established criteria for the given position. After the selection of the best candidate, the part related to the formal joining of the selected talent to the organization follows, which is considered employment. According to Kahn and Baum (2020, p. 31), employment entails an offer from the employer, its acceptance by the employee if there are no additional requirements, or negotiation for better conditions, consideration of requests by the employer, final agreement, and ultimately formal signing of the employment contract. Once the selected talented individual is formally employed, their integration into the organization follows. The initial period of being in a new position involves the orientation phase. Vanderslice (2011, p. 3) defines orientation as connecting new employees with the company's mission, vision, and values, as well as its leaders and other employees, or colleagues.

Within the support activities are those activities that need to continuously occur in the organization, regardless of the moment a new talent is introduced. They are there to ensure that talents contribute their maximum to the organization and stay there as long as possible. This group includes talent retention, talent development, and succession planning. Talent retention encompasses all activities and practices that the organization uses to prevent the departure of talented employees. It depends on the psychological contract between the organization and the employee. On the one hand, the organization is expected to provide continuous opportunities, shape jobs to maximize the use of talents' skills and knowledge, adequately reward them, and help talented employees find new opportunities, both within and outside the organization. On the other hand, employees are expected to continuously invest in themselves, transfer their knowledge to colleagues, and contribute to organizational learning, thereby contributing to the organization (Bahtijarević-Šiber, 2014, p. 197).

Talent development is an important component of the overall talent management process (Novations, 2009, as cited in Garavan et al., 2012, p. 5), focusing on planning, selecting, and implementing developmental strategies for the entire talent pool to ensure that the organization has enough talents currently and in the future to achieve strategic goals (Garavan et al., 2012, pp. 6-7). Talent succession planning is an extremely important activity because, as Charan (2011, as cited in Pandey & Sharma, 2014, p. 153) believes, it is much better for important positions within the organization for talents to be developed and promoted from within than to be hired externally. The same is agreed by Carnegie (2009, as cited in Pandey & Sharma, 2014, p. 153), who defines succession planning as a systemic way to ensure that employees in a particular organization are competent enough to develop and then replace strategic roles in the organizational hierarchy. Here, it is important not to confuse terms because succession planning is different from replacement planning because it does not focus on finding an internal temporary replacement from another department but rather on vertical movement, for example, a manager from a middle level moving to a higher-level managerial position (Rothwell, 2011, p. 89).

RESEARCH METHODOLOGY

For this research, the population was determined based on five criteria. The first criterion is the size of the company, the second criterion is company ownership, the third criterion is the industry, the fourth criterion is the geographical location of the company headquarters, and the fifth criterion is the legal form of the company. The research includes small, medium, and large service companies that are privately owned, registered as limited liability companies or joint-stock companies, and headquartered in Bosnia and Herzegovina. For the purposes of this research, a quota sample was used, representing a group of elements with a predefined number of quotas of certain characteristics, as shown in the table.

Table 4. Research Sample

Company size	Small	Medium	Large	Total
Number of employees	10-49	50-249	250 and more	
Sample	62	42	16	120

Source: Authors' creation

The research includes companies from 13 cities in Bosnia and Herzegovina, and the distribution of the number by cities is shown in the following graph.
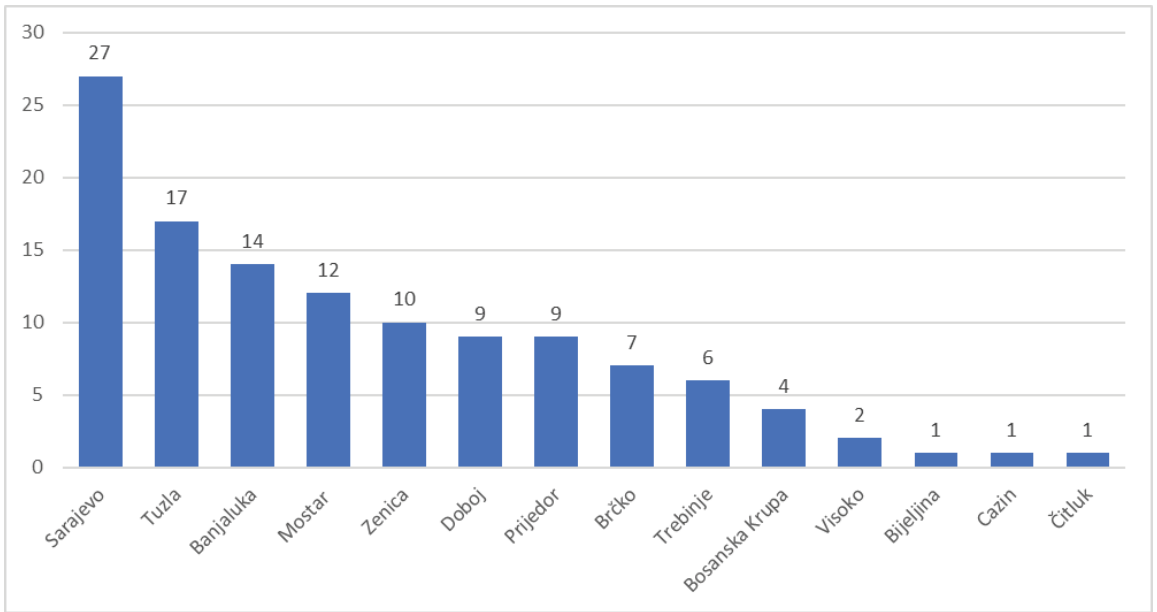
Graph 2. Geographical Distribution of the Research Sample

Source: Authors' creation

From the perspective of the age of the companies included in the study, 16.8% have been operating for less than 5 years, 19.8% have been operating between 5 and 10 years, and 63.4% have been operating for more than 10 years.

The survey was conducted using a questionnaire, with one manager, as a representative of each company, who holds one of the following positions: talent manager, human resources manager, executive manager, general manager, or director. The questions were formulated in the form of a Likert scale (1-5) and based on questionnaires used in previous research on individual talent management activities (Al Ariss et al., 2014; Atheer, 2018; Vnoučková et al., 2018; Lyria, 2014; AlKerdawy, 2016; Nakhate, 2016). The questionnaire consisted of two parts. The first part presented statements with which the respondent had to express the degree of agreement according to the Likert scale, where the number 1 indicated complete disagreement with the statement, and the number 5 indicated complete agreement with the statement. The second part of the questionnaire related to the examination of company characteristics and was formulated within multiple-choice questions and open-ended questions. In this part, the goal was to determine the age of the company, its size, and the location of its headquarters. Examination of personal characteristics of managers (gender, age, education, and such) who represented respondents within each company was not considered relevant to the study topic.

The empirical research was conducted in Bosnia and Herzegovina during April and May of 2023. To achieve comprehensive geographical coverage, companies from 13 cities were included in the study. For the purpose of the research, one interviewer from each city was engaged to visit the companies and conduct face-to-face interviews. Participation in the survey was voluntary, and a large number of companies declined to participate. Those who agreed were provided with a detailed insight into the purpose of the research before presenting the questionnaire, and they were informed about how the results would be utilized. The survey was not anonymous, and the names of each participating company were known, enabling subsequent verification of the fieldwork conducted by the interviewers.

RESULTS AND DISCUSSION

Considering that there is no universal approach for measuring the level of development of talent management activities, the authors have formulated a standard for measuring this variable based on the Likert scale and ratings provided by managers. The standard is presented in the following table.

Table 5. Standard for Measuring Talent Management Activities

Score	Level of activity development
1- 2.99	Underdeveloped activity
3-3.99	Moderate level of activity development
4-5	Highly developed activity

The conducted research has shown that the overall rating of the development of talent management activities in the surveyed companies is 3.93, indicating a moderate level of development of activities. The development of individual activities was also analyzed, and the results are presented in the following table.

Table 6. Results of Talent Management Activities Development

Activity	Score
Talent management strategy development	3.8
Identification of key positions	4.16
Talent attraction	4.45
Talent recruitment	3.31
Talent selection and hiring	3.75
Talent orientation	3.91
Talent retention	4.35
Talent development	4.09
Succession planning	3.54

From the provided results, it is evident that service companies in Bosnia and Herzegovina give the highest attention to the development of:
- Identification of key positions
- Talent attraction
- Talent retention
- Talent development

According to the predefined standard for measurement, these activities have a high level of development. All other activities have a moderate level of development and slightly lag behind the aforementioned activities.

CONCLUSIONS

Every day, in an increasingly dynamic business environment, it becomes clear that despite rapid technological advancements, the emergence of artificial intelligence, Internet development, and other characteristics of modern business, people remain an irreplaceable resource. Regardless of all these changes, the key to a company's success lies in the talents that individuals bring with them. Therefore, in recent decades, a special branch within human resource management has developed, focusing on these valuable talents. Talent management, although extremely attractive to both theorists and practitioners of human resource management, still leaves plenty of room for research. This space pertains to the exploration and development of the most effective model for its application in a business context, as well as studying its impact on various business outcomes. The lack of research in this area is particularly pronounced in Bosnia and Herzegovina, where there are few conducted studies and published works on this topic, but at the same time, there is a low awareness among companies about the concept itself and the importance of its application.

The aim of this research was to examine the implementation of talent management in Bosnia and Herzegovina, focusing on a specific sector, namely the service industry. Given the absence of a unified talent management model, based on previous theoretical and empirical research, the level of talent management development was observed through the application of nine activities categorized into three groups. The research results showed a moderate level of talent management activity development in the sampled companies, with higher development observed in the identification of key positions, as well as activities related to talent attraction, retention, and development.

The uneven assessment of the development of individual activities indicates that talent management, in practice, has not yet evolved as a comprehensive system, and that companies allocate varying levels of attention to different activities. Such an approach may not yield the best results for organizations because a weaker focus or complete absence of certain activities can jeopardize the position and retention of talent within organizations. Therefore, it is necessary to pay more attention to this crucial area of human resource management, as numerous previous global studies have demonstrated its significance in practice.

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ECONOMIC THEORY AND POLICY /
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ANALYSIS OF PUBLIC PROCUREMENT PROCEDURES: EVIDENCE FROM WESTERN BALKAN COUNTRIES

ABSTRACT

Public procurement plays a key role in the process of growth stimulation of each national economy. Public procurement contracts are significant contributors of GDP in the national economy and also a great expenditure in national budgets. The system of public procurement should guarantee transparency in all phases of the procedure, equal treatment of all participants, openness to competition, non-discrimination and proportionality. The mainstream of the procedures is to achieve better quality and best value for spent public money. Having in mind the fact that governments in Western Balkan countries spend a large sum of money through public procurement to carry out their daily functions and needs, we decided to conduct an analysis of public procurement in Western Balkan countries. Hence, the main objective of this article is a quantitative analysis of some of the key indicators of public procurement procedures. The data are related with: contracting authorities; concluded contracts; values of different types of procurement contracts awarded (supplies, works, services); types of procurement procedures used; active economic operators especially small and medium enterprises such as contracting parties in public procurement contracts and the size of public procurements in terms of GDP. For this purpose, we carried out a time series analysis of secondary data obtained from official state reports issued by relevant institutions in each of these countries for the last 5 years. The examination conducted in this paper is to create a quantitative framework for different aspects of public procurement, that should allow the state bodies and institutions easier assessment and monitoring of the process. Obtained results of the research are presented within this paper in detail. At the end, based on the results we recommend measures in order to stimulate public policies in a way to ensure the applying of the main principles of public procurement in a more respectable manner.

Key words: system of public procurement, contracts, indicators, public finance

JEL*: M21, K12, E60, H57

1. INTRODUCTION

Public procurement refers to the process by which public authorities, such as central government or local authorities use the public funds to obtain the required resources to realize their institutional

goals. The essence of public procurement is to achieve best value for money, which manifests in enhanced human welfare and improved economic growth. The world spent $11 trillion on public procurement in 2019, amounting to 12 percent of global GDP (Erica Bosio et al, 2022, p.1091). This percentage is even higher in richer countries. Therefore, public procurement plays an important economic role since it accounts for a significant share of the EU economy (Baldi et al. 2016, p.2). Namely, public procurement accounts for about 14% of the EU's GDP (European Commission, 2021 p.111). In 2019 over 2000 billion euros of EU citizens' money was spent on public procurement procedures to provide goods and services to cities, regions, nations, and EU institutions (R. Martinez et al., 2022, p.1). Consequently, public procurement is recognized as a significant determinant of the economic development of each country and is used as a lever to drive sustainable growth, which attracts the attention of many researchers. Notable among them is the study conducted by Nkinga (2003, p.2), who stated that strong procurement management in the public sector is a tool for achieving political, economic and social goals. In a similar study Nijaki and Worrel (2012, p.133) found that procurement can be used as a viable tool in fostering both economic and environmental goals, and as a key policy and planning tool for sub-national governments in the pursuit of a green economy. Similar results are confirmed in the study conducted by Moerenhout and Roy (2012, p.31) who revealed that public procurement can influence markets, drive innovation and facilitate efficient, green industrial growth. So, they also recommend to governments to build successful procurement programs, which include, among others, the use and progressive upgrading of sustainability standards, life-cycle costing, the development of coherent and transparent procurement methods, product listing strategies and the inclusion of sustainable investment principles when private capital is involved.

Since, public procurement accounts for a substantial portion of the taxpayers' money, governments are expected to carry it out efficiently and with high standards of conduct in order to ensure high quality of service delivery and safeguard the public interest. Regarding this, public procurement is governed by rules and regulations to maximize value for money for the public sector and ensure compliance with three key principles: equal treatment, non-discrimination and transparency.

Accordingly, EU rules have been reformed in order to guarantee higher efficiency and transparency to the procurement process and to ensure a greater inclusion of social goals like environmental protection, social responsibility, innovation, wider inclusion of small and medium companies, employment, public health and other social and environmental considerations. Therefore, the public procurement regulation is a subject of constant upgrading, modifying and amending, in order to more consistently implement and respect the basic principles while using public funds, i.e., providing effective public procurement with effective utilization of state budget funds when delivering quality public services to citizens, with a high level of transparency and accountability (Spaseska et al., 2019, p.23).

The governments in Western Balkan countries spend a large sum of money through public procurement to carry out their daily functions and needs. So, the public procurement system in the Western Balkans is one of the critical corruption zones – as the government mechanism for buying everything "from a needle to a locomotive" it has been for a long time considered as such by the European Commission, and with a good reason. Recent analysis has shown that most of the western Balkan countries have made important progress in improving their public procurement policies and some progress in their implementation, monitoring and evaluation (OECD, 2022). They also have significantly improved their public procurement legislation and also application of electronic procurement solutions has been significantly enhanced due to the establishment or improvement of central public procurement portals. So, we decided to conduct an analysis of public procurement in Western Balkan countries. Hence, the main goal of this research is a quantitative analysis of some key indicators of public procurement procedures.

The rest of the paper is organized as follows. Section 2 reviews and analyzes public procurement legislation in Western Balkan countries. Section 3 provides insights into the objectives of the study, data, and methodology. The results obtained from the time series analysis with their interpretation are presented in Section 4. The last section concludes and recommendations.

2. PUBLIC PROCUREMENT LEGISLATIVE IN WESTERN BALKAN COUNTRIES

The Western Balkan Countries are regulating the public procurement procedures with their national laws. As a candidate for membership of the European Union all of them should follow and fulfill the European Union minimum standards and policies. European Union law sets out minimum harmonized public procurement rules which are transposed into national legislation of EU members and they apply to tenders whose monetary value exceeds a certain amount. The member countries for tenders of lower value have wider freedom because they are regulated with national rules.

Public procurement in the Republic of North Macedonia is regulated by the Law on public procurement which was adopted in 2019. This Law regulates the manner and the procedure for awarding public contracts, sets the competences of the Public Procurement Bureau, establishes and sets the competences of the State Appeals Commission and review procedures, and the procedure of awarding concessions and public-private partnership. This Law is expected to provide higher transparency and the best value for the spent public funds, an efficient supervision system based on recognizable experiences of some European countries, but also is expected to simplify the procedures, which will normally result in decreasing the administrative burden of the contracting bodies in the implementation of the Law (Spaseska et al., 2019, p.25). The Public Procurement Bureau has a variety of duties among which are included the tasks to collect, process and analyze public procurement data and draft statistical reports.

In the Republic of Serbia, public procurements are regulated with the Law on public procurement, also adopted in 2019. This Law regulates the rules of the procedures of public procurement conducted by contracting authorities/entities or other entities in cases provided for under this Law, for the purpose of concluding supply, service or works contracts, framework agreements, and for conducting design contests. Also, this Law regulates the scope of work and form of organization of the Public Procurement Office. The Public Procurement Office collects statistical and other data on the conducted procedures, concludes public procurement contracts and prepares a special annual report on public procurement.

As a part of the process for harmonization of domestic law with EU law, the Parliament of Bosnia and Herzegovina adopted the new law on public procurement in 2014. Except bigger harmonization with EU directives, the basic characteristics of the new law, according to the Agency for public procurement in Bosnia and Herzegovina are: increasing for double the number of articles which more precise regulate the public procurement, improvement of the application of basic principles of equality, transparency, economy, competition and increasing social control, as well as greater use of Information technology (Voloder, 2015, p.15). Public procurement law is based on 2004 directives and so does not take solutions available under the EU Public Sector Directive 2014/24 and EU Utilities Sector Directive 2014/25 into account. Amendment provisions were prepared in 2017-18 but have not yet been adopted. (SIGMA, 2020, p. 117). These directives were implemented in 2022 when the Law amending the Law on public procurement was adopted.

Starting from 15th of March 2021, the new Law on public procurement (Law 162/2020 "On public procurement") in Albania entered into force with the aim of further aligning the regulatory framework of public procurement with the EU Directives, as well as with the aim of addressing the inconsistency or problems arising from the implementation of the previous law. This law regulates the procurement procedures conducted by contracting authorities and entities for public contracts and design contests. Also, the law regulates the working scope of the Public Procurement Agency which oversees the public procurement system, in order to ensure efficiency and transparency in the public procurement process.

The law on public procurement in Kosovo has been changed several times. These days the basis on public procurement in Kosovo is leaning on the Law on Public Procurement No. 04/L-042. In order to avoid abuses and misuses of public funds, the Parliament of the Republic of Kosovo has approved the Public Procurement Law Nr. 04/L-237, Law no. 05/L-068 and Law. 05/L-092. (Gjonbalaj et al, 2021, p.37). According to the law, Public Procurement Regulatory Commission, as

an independent regulatory agency, has a responsibility for each calendar year, to prepare and to submit to the Government and the Assembly an annual report analyzing public procurement activities in Kosovo and setting forth any recommendations for the improvement of the public procurement system and/or the present law.

Although the Law on public procurement adopted in 2011 in Montenegro and its amendments were in large extent or at least to a large extent harmonized with EU Directives, the next phase of the harmonization process was adoption of new Law on public procurement in 2021. The Ministry of finance, Directorate for Public Procurement Policy of Montenegro have to perform some administrative and professional tasks such as preparing and submitting an annual report to the government.

It is common for all Western Balkan countries that the public procurement procedures due to the process of harmonization with EU standards, more or less in the last few years have been modernized, the procedures have become more transparent and the usage of internet technologies have increased.

3. DATA AND METHODOLOGY

For the purpose of the paper, we carried out a descriptive and comparative analysis of secondary data obtained from official state reports issued by relevant institutions in the following countries: Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Kosovo and Serbia. Also, we use European Commission staff working documents for the countries of the Western Balkans in separate years. During the research we came across some limitations, as in some national reports are missing out some data for analyzed indicators. For example, the national report for public procurement of Bosnia and Herzegovina for 2018 is not published on the official web page of the Agency for Public Procurement, thus for this year in the following analysis some data is missing or is filled with data from other official sources (if exist).

The research is conducted on some public procurement indicators which are common and available for all WB countries in the time period from 2017-2021. The data for 2022 have not been analyzed because the reports for 2022 have not been published in all of the mentioned countries. It is important to stress out, as it is well known, that in this period there was Covid-19 pandemic and the post Covid-19 crisis. The main purpose of research is to make comparative analysis and to perceive the real conditions, certain omissions, existence of inconsistency of the data published in public procurement reports of national agencies, bureau, offices and European commission reports for the same purpose for the WBC.

4. RESULTS AND DISCUSSIONS

4.1. Indicator – Number of signed contracts

In the figures below are presented the data about number of signed contracts in the last 5 years, according to the published data in national public procurement reports:
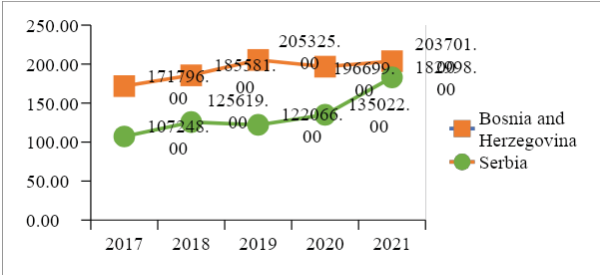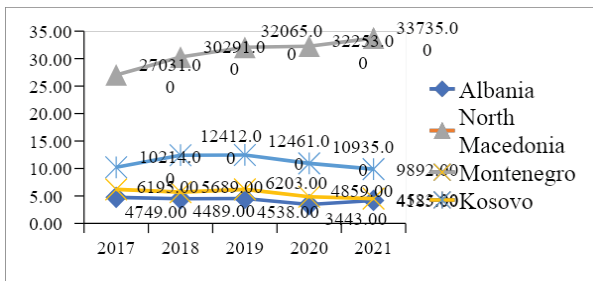
Figure 1. Number of signed contracts in Albania, North Macedonia, Montenegro and Kosovo

Figure 2. Number of signed contracts in Serbia and BIH

It is obvious that the most signed contracts were in Bosnia and Herzegovina in 2019 (205.325), and in 2020 the number of signed contracts in Albania is on the lowest level. In general, in all 5 years of the analyzed period Bosnia and Herzegovina is the leading country in terms of the number of signed contracts while Albania has the fewest number of signed contracts.

The number of signed contracts in 2021 in Albania compared to 2017 decreases by 11.88%. Also, this trend is evident in Montenegro and Kosovo in 2021 where this percentage is lower for 26.99% and 3.15% respectively, compared with 2017. Opposite, in Bosnia and Herzegovina, North Macedonia and Serbia there is evident trend of increasing number of signed contracts, where this number has increased for 18.57%, 24.80% and 70.63% respectively.

4.2. Indicator - Value of concluded contracts

Considering that the value of concluded contracts is expressed in national currency (denars, dinars, Albanian lek, convertible marks), for the purposes of the analysis, to gain a more comparatively information about summary value of all concluded public procurement contracts on yearly base in each WB country, we convert the currencies into euros.[8]

Fig 3. Value of concluded contract in Albania, North Macedonia, Montenegro, Kosovo and Serbia.

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[8] The converter was up to date with exchange rates from 23 August 2023.

Fig 4. Value of concluded contract in Bosnia and Herzegovina.

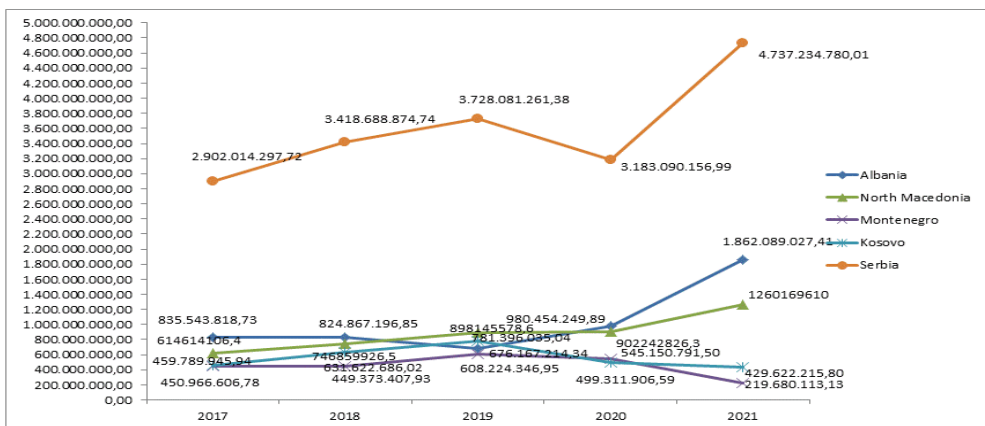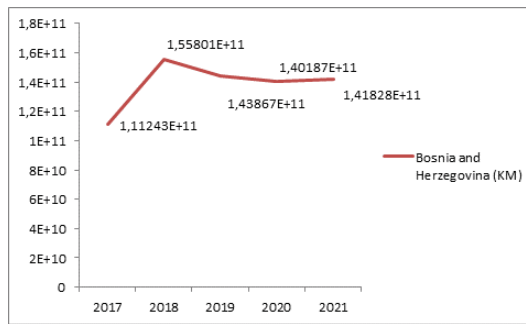It is obvious that the value of concluded contracts on a yearly basis is on the highest level in Bosnia and Herzegovina. We should state that the value of concluded contracts in Albania and in North Macedonia in 2021 is doubled than in 2017. In Serbia the value of concluded contracts in 2021 is enlarged for 1.6 times. Also, in Bosnia and Herzegovina there is a slight increasing trend. An opposite, in Montenegro the value of concluded contracts in 2021 is decreased for almost half of the value of concluded contracts in 2017.

4.3. Indicator - Share of Public Procurement to GDP

The absolute value of realized public procurement contracts in a year, may be insufficient data for the analysis due to the fact that WB countries have diverse geopolitical and demographic characteristics. For that purpose, we analyzed the share of public procurement to GDP. The ratio of the value of public procurement to gross domestic product shows more about the level of influence of the country in economic transactions in general. The results for each country in the last 5 years are presented in the Figure 5:
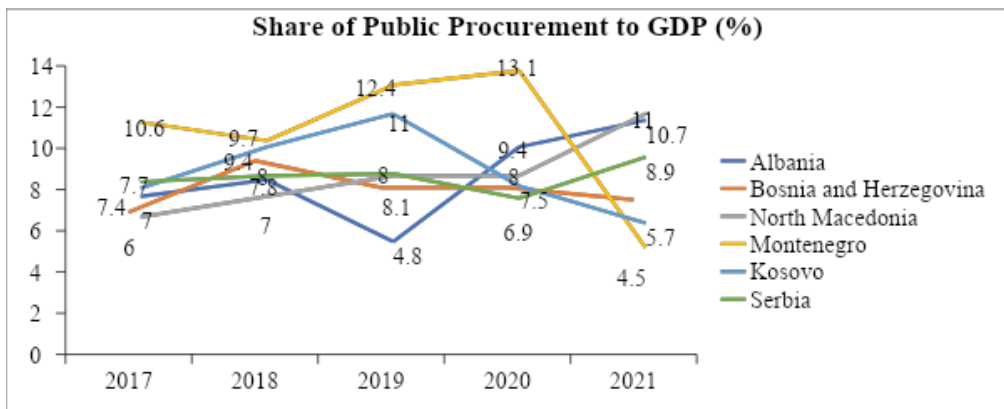
Figure 5. Share of Public Procurement to GDP

Based on the results of the conducted analysis it can be concluded that Montenegro has the highest participation of the public procurement in GDP compared to Albania, Bosnia and Herzegovina, North Macedonia, Kosovo and Serbia. Exemption is 2021 when public procurement in Montenegro has the lowest share to GDP compared to the analyzed countries. North Macedonia starts with the lowest share to GDP in 2017, but the results confirmed the growing trend of the public procurements to GDP in the next 4 years, while the rest of the analyzed countries have a downward trend.

Therefore, it should be stressed that for some of the countries, the data for this indicator that are part of the reports issued by national authorities are different compared to the data issued by the European Commission. For example, according to the Public Procurement Office Report in Serbia

(Public Procurement Office Reports, Serbia, 2018, p.3) the share of public procurement to GDP is 7.68% for 2017, but according to the Serbia 2020 Report (European Commission, 2021, p.57) for the same year is 7.2%. Similar is the situation for the data in North Macedonia, according to the reports of Public Procurement Bureau for 2017, 2018 and 2019 the value of this indicator is 6%, 7% and 8% respectively, but according to European Commission staff working documents for The former Yugoslav Republic of Macedonia/North Macedonia in separate years are: 10%, 9% and 11% for 2017, 2018 and 2019 respectively.

According to the European Commission (2017), the value of public procurement, from over 250.000 public authorities in the EU, is 14% of Union GDP, or 2 trillion euros per year. But, the results of our research have shown that this indicator is under the EU level in all WB countries. Given the importance of public procurement contracts in the economy, procurement standards have a significant influence on the practices of private contracting parties and their subcontractors, and thus a significant indirect influence on the private sector as a whole (European Parliament, 2020, p.2). Consequently, public procurement is a significant trigger to each national economy.

4.4. Indicator– Number of signed contracts by subject of procurement

According to the EU legislation and WB countries legislative, public contracts may be: public supply contracts, public service contracts or public works contracts, depending on the subject of the procurement. This data is important because it can show whether public expenditure on public procurement refers to capital investment given the fact that execution of works constitute the largest part of capital investment.

During the analyses of this indicator, we met some obstacles, for example all of the national reports published by the Public Procurement Regulatory Commission do not consist of data for the number of signed contracts by subject of procurement. Also, there is not available data for this indicator for Bosnia and Herzegovina for 2018 and for Serbia in 2017. The national reports from Bosnia and Herzegovina beside the standard classification of contracts by the subject (goods, services and works), they also contain contracts for social and other special services classified in Annex 2 of the Law on public procurement. The remaining WB countries do not have singled out data for special services.

In the figure below are presented the number of concluded contracts divided by the subject of the procurement (work, supplies, services, and services classified as social or special services if they are singled out in the national reports) for the last 5 years in Western Balkan countries.

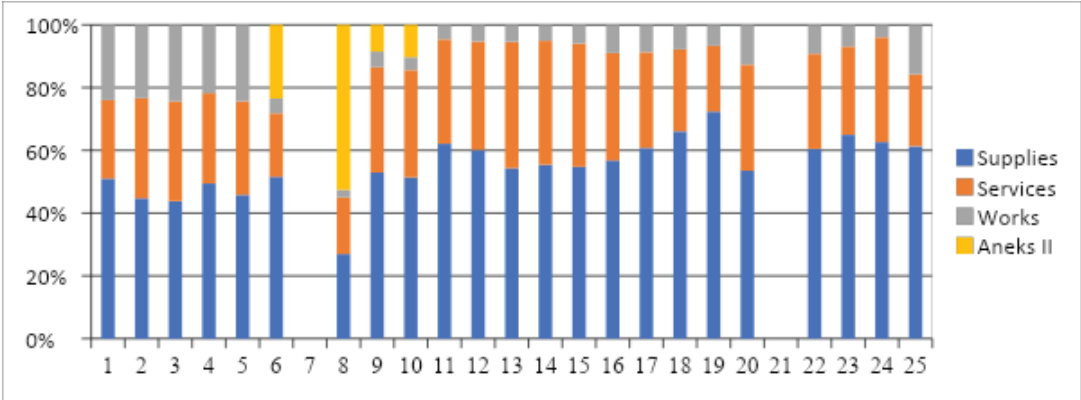Figure 6. Number of signed contracts by subject of procurement

Generally, most of the WB countries conduct public procurement for supply of products, second one is the contracts for provision of services and the least of purchasing contracts have a subject execution of works. The figure above shows that the most balanced division of contracts by the subject are public procurement contracts concluded in Albania.

4.5. Indicator - SMEs participation in public procurement contracts

Small and medium-sized enterprises (SMEs) are regarded as the backbone of the economy, as they have a huge potential for job creation, growth and innovation. Easy access to public procurement markets can help SMEs in unlocking this potential, while having a positive impact on the economy. Moreover, the strong involvement of SMEs in public procurement allows contracting authorities to considerably broaden their potential supplier base and to thereby secure the positive effects of higher competition for public contracts as a counterbalance to dominant market players (SIGMA, 2016, p.2). SMEs participation in public procurement contracts should show how much the procedures ensure equal treatment and non-discrimination of economic operators and what is the level of competition among economic operators.

Although all assessed economies collect and process various statistical data on public procurement, only North Macedonia and Serbia apparently dispose of specific information on the participation of SMEs, such as their participation or success rates (OECD, 2022, p.202). The lack of this information does not allow the public procurement market to be properly assessed, in particular how it affects SMEs participation.

The Republic of North Macedonia have published this kind of data only in the Report for 2021, and Republic Serbia have published in the reports for 2021 and 2020. The data for 2020 contains information about participation of SMEs in the procedures conducted according to the law form 2015 and procedures conducted according to the law adopted in 2019. Pursuant to the Law on public procurement adopted in 2019, the Public Procurement Office of Republic Serbia has a task to submit a statistical report that should contain data about SMEs participation in public procurement procedures. Due to the fact that the Reports from Serbia also include in this number the activities of micro enterprises, in the table below with purpose to make a proper comparison we add the data for micro, small and medium enterprises from North Macedonia presented in the Report from 2021.

Table 1. SMEs participation in public procurement contracts

Micro, small and medium enterprises	2020				2021			
	Numb. of signed contracts	% part. in total signed contracts	Value of concluded contracts	% part. in total value	Numb. of signed contracts	% part. in total signed contracts	Value of concluded contracts	% part. in total value
N.Macedonia	/	/	/	/	28 028	83%	43.1 mil denars	55%
Serbia according to LPP 2015	8 156	89.46%	18 489 277 833 din	49.78 %				
Serbia according to LPP 2019	49 299	69.3%	216 331 441 000 din	79.2%	153 796	84.04 %	395.333.575.171 din	70.62 %

The available data for this indicator has shown that the total participation of SMEs in public procurement contracts according to their number and value is greater in Serbia than in North Macedonia.

5. CONCLUSION

The main objective of this study was to examine some of the key indicators of public procurement procedures. Considering the fact that not all of the WB countries have published data in the national reports for the same indicators and the fact that there are some diversities in public procurement regulative, we analyzed the indicators which data is public published and which is common for all of them such as: number and value of concluded contracts, share of Public Procurement to GDP and

number of signed contracts by subject of procurement. The exception is the data for participation of SMEs in public procurement contracts because only Serbia and North Macedonia have available data for this indicator in the last two or in the last year. But having in mind the role of SMEs as the backbone of the economy, and their huge economic potential especially in WB countries, it is important to stress out that this data is very important to be published in official statistical reports and also to be subject of further analysis.

The results of our research confirmed that all of the Western Balkan countries mainly have had harmonized their public procurement legislation with European Union directives. Therefore, all of WB national bodies publish annual reports but the legislator does not specify what these reports should contain, except the Serbian legislator. The legislator's effort for prescribing what the annual reports should include is positive and may contribute to better comparison between WB counties public procurement aspects. For more consistent respect of the provision of transparency is necessary all of the reports to be published, to be precise and in any cases, it is unforgivable and unprofessional to have a distinction in the data from the same countries, the same year and the same indicators in different reports such as the case of national reports and European Commission reports.

Regarding the first indicator-Number of signed contracts, the analysis has shown that there is a positive trend in Bosnia and Herzegovina, Serbia and North Macedonia, while there is a downward trend of slightly decreasing of the number of signed contracts in Montenegro, Kosovo and Albania. The value of concluded contracts is enlarged during the last 5 years in Albania, North Macedonia, Serbia and Bosnia and Herzegovina, while in Montenegro the value of the contracts in 2021 is halved compared to 2017 and in Kosovo is evident oscillating trend. Generally, it is hard to make a simple conclusion or equation about some trends in indicators that show the share of Public Procurement to GDP. Except North Macedonia and Albania, in all other WB countries there is evident oscillating trend for this indicator. Maybe, the reason for such a situation is the unstable economy during Covid-19 pandemic and post Covid-19 crisis. In North Macedonia and Albania (exemption is 2019) there is evident an increasing trend of the share of Public Procurement to GDP. It is obvious that this indicator in all WB countries to a significant extent is under the EU level. By respecting all of the basic principles of public procurement procedures in all WB countries, public procurement procedures can be of great importance for economic growth. The absence of data for participation of SMEs in public procurement procedures lead to inadequate conclusions about the abilities and possibilities of SMEs to join many public procurement calls. Only through clear and precise data on the participation of SMEs in public procurement can a conclusion be drawn about the possibility for participation of these companies in public procurement procedures. This data is of great importance bearing in mind the fact that SMEs are the main employers in WB countries. According to the division of contracts by subject of procurement most of the WB countries conduct public procurement for supply of products, second one is the contracts for provision of services and the least of purchasing contracts have a subject execution of works.

Simultaneously, it should be carried out a more aggressive campaign for promoting transparency of the public procurement procedures and strong commitment to fighting corruption, i.e., measures for increasing strict adherence to the legal framework regulating procurement practices, continuous audit and monitoring of the public procurement procedures, capacity building through training and guidance to help all of those involved in procurement to understand sustainable procurement etc. Considering that WB countries provide sufficient advice, support and training to help SMEs access to public contracts, first of all they need to collect and analyze this information, and further but also a very important pillar is to adopt adequate policies for better access of SMEs in the public procurement market.

This study will contribute to the existing research in this field and can be a basis for further research on some indicators that were not analyzed in this paper. Since our study was restricted to analyzing five public procurement indicators, a challenge for our next research will be to extend the analysis with the inclusion of the number of concluded contracts according to award criteria, the number of concluded contracts according to the type of public procurement procedures, the equal treatment

and non-discrimination of the economic operators besides their size, number of employees, company's capital, also the access of SMEs in the public procurement market etc.

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DEVELOPMENT CHALLENGES IN LOCAL COMMUNITIES IN BOSNIA AND HERZEGOVINA: FACTOR ANALYSIS AND CLUSTER ANALYSIS

ABSTRACT

Economic development in local government units (LGUs) encompasses various aspects and yields diverse outcomes contingent on economic, demographic, and labor market conditions. In nations with a decentralized governance structure like Bosnia and Herzegovina (BiH), this implies that policymakers are confronted with a plethora of potentially influential variables that must be considered when formulating economic policies. As a result, it becomes paramount to concentrate on those variables that encapsulate the maximum amount of development-related information. This study delves into numerous developmental facets of LGUs within three cantons in the Federation of BiH.

This paper employs factor analysis, encompassing 36 local government units as observations and 11 distinct developmental aspects as components of the factor analysis. LGUs are categorized into clusters based on outcomes derived from cluster analysis. These twin analyses are further employed to identify regional disparities among LGUs. The outcomes of these analyses serve as a foundational framework for development interventions by the Federation of BiH into LGUs that encounter akin and comparable developmental challenges. The most pivotal developmental challenges at the local level that warrant the attention of decision-makers in the Federation of BiH are identified in the paper as follows: unemployment, an aging population, and a low vitality index.

Keywords: regional economic development, factor analysis, cluster analysis, Bosnia and Herzegovina

JEL: C38, R12

INTRODUCTION

A policy of regional development requires well-defined socio-economic characteristics as the foundation for formulating effective policy measures. These socio-economic aspects are observed at the local levels of municipalities and cities, collectively referred to as local government units (LGUs). Among the numerous aspects of socio-economic development at the LGU level, a selection has been made for analysis in this paper. The paper's objective is to categorize and group LGUs that are more suitable for the implementation of specific measures of regional development policy. This grouping is achieved through factor and cluster analysis. The outcomes of this paper offer clear policy implications for decision-makers. Development resources, encompassing both human and financial aspects, are scarce in countries like Bosnia and Herzegovina and other transition countries. Setting the right priorities becomes an essential exercise for decision-makers when formulating development policies. This holds true both at the national and sub-national levels. Regional economic development in BiH has been analyzed on entity levels more than on country level. Statistical agencies and development authorities publish rankings of LGUs that reveal high inequality among them. For instance, there is a significant gap in terms of average wages or

(un)employment rates among LGUs. Those on higher levels of economic development have twofold better scores on development indicators than less developed ones. Factor and cluster analysis can facilitate directing resources to those economic sectors that contribute to a balanced economic development throughout the country.

Regional development analysis in the European Union (EU) relies on the Nomenclature of Territorial Units for Statistics (NUTS), which defines regions on three hierarchical levels. The formulation of regional development policies, including the EU Cohesion Policy funding for 2014-2020, is grounded in the classification of NUTS 2 regions. It is NUTS 2 level that stands as the standard framework used for formulation and implementation of regional development policy and running analysis with regional perspectives. However, unlike all Western Balkan countries, BiH has not adopted the NUTS classification. As a result, regional development analyses in BiH must be based on alternative classifications.

In this study, the breakdown of economic territory follows the administrative divisions better known as cantons.[v] The analysis is concentrated on three specific cantons within the Federation of BiH: Zenica-Doboj, Central Bosnia, and Tuzla Canton. The fundamental claim of this paper is that employing factor and cluster analyses yields highly valuable outcomes for identifying prevailing development needs and for effectively directing development interventions within these three cantons.

In the subsequent sections of the paper, we present certain findings from prior research, acquired through a literature review (Section 2). Then, we outline the research methodology in Section 3, which includes an explanation of the data, variables, and research methods employed. Section 4 provides the results and their discussion. Finally, the paper concludes with insights presented in Section 5.

PREVIOUS RESEARCH

Factor and cluster analysis can be utilized for country wide or regional analyses on various economic fields: international economics(Vahalik & Stanickova, 2016), finance (Ruzgar & Unsal, 2013), economic development, etc. Rašić-Bakarić (2006) harnessed factor and cluster analyses to suggest arrangement of municipalities into different clusters based on their respective socio-economic characteristics expressed through factor analysis. In this analysis with regional focus in Croatia three factors were recognized out of 11 variables for 86 LGUs located in three counties, as follows: relatively young population; economically strong local governments; low share of primary sector (1st factor); developed tourism (2nd factor); and relatively high employment; better educational attainment of population; and higher per capita GDP (3rd factor). In each cluster, Rašić-Bakarić highlighted the predominant factor, emphasizing its positive or negative relationship with the cluster. The author's conclusion can be summarized in two main points: (i) the utilization of factor and cluster analysis methods led to the identification and grouping of LGUs into clusters based on similar socio-economic characteristics; (ii) the analysis revealed that LGUs are not uniformly distributed in terms of both geography and economics. LGUs that are physically close to each other might exhibit significant economic differences and fall into different clusters.

Another paper that uses factor and cluster analyses on country level is written by Rio-Casasola (2021). In this paper, a group of 20 European countries were examined in the period 1995-2014. The analysis is based on 14 indicators and in various years of the period different numbers of factors were extracted, starting from 3 in year 1995 to 5 in 2014 (in some years only 2 factors were extracted that explain, on average, 68% of total variance of the variables). Those two factors hinge on productive structure and consumption capability, and export orientation and dependency on foreign capital. Since the subject of the paper is focused on center and periphery, two concepts that were coined in the Dependency theory, the number of clusters was predetermined from the very beginning of the paper. The research is longitudinal, and it provides insights about changes during the period in which some countries kept their position in the center (such as Germany) and other

countries experiencing weakening of the position or even falling from the center to the periphery (such as Italy) during the period.

Indicators of foreign trade served as independent variables for an analysis of international competitiveness of the EU and BRICS countries by utilization of factor and cluster analysis (Vahalik & Stanickova, 2016). Authors detected six factors of foreign trade competitiveness explaining 84,4% of total variability. Factors are named in the following way: export sophistication, economy scope, export structure, standard of living, standard of trade, and low-technology export. Accordingly, countries were grouped into six clusters based on their similar features of competitiveness factors.

In 2019, Yakovenko et al. employed cluster analysis to discern specific areas in Russia primed for further socio-economic development, with a focus on their socio-economic standing measured with ten variables in 28 municipalities. In their analysis formation of five clusters was recommended: (i) cluster of high level of economic development, (ii) mildly depressed areas, (ii) mid depressed areas, (iv) strongly depressed areas, and (v) critically depressed areas.

Research on rural socio-economic development was presented by Vincze & Mezei (2011) for 58 communities of Bistrita-Nasaud in Romania. After inclusion of 23 indicators into factor analysis four factors were extraced: employment, quality of life and existing labour supply, potential of labour supply, and income. These four factors explained 69,4% of total variance of the variables. All communities were arranged into five clusters that served as basis for formulation of policy measures to solve the existing development challenges. In that way relevant development features that lead to problems were presented for communities in each cluster and potential strategies were also suggested.

Urban-rural integration as a special aspect of economic development is explored by various methods of factor and cluster analyses. Yang, Bao, Wang, & Liu (2021) emphasized big challenge in modern China as: "… contradiction between people's growing need for a better life and unbalanced and insufficient development." Authors recognized urban-rural integration as appropriate path of development for reduction of existing regional development imbalances. They analyzed 39 indices from 30 provinces for the period 2000-2018 extracting six factors that explain 76,3% of total variance of the variables. In their paper three clusters were established at the country level, each of them consisting of several regions.

Rao & Gao (2022) examined 15 cities in Hubei province in China conducting cluster analysis. They established four clusters ranging from high to low level of urban-rural integration and other development features. It is worth of noting that authors consider urban-rural development as: "… not an either-or relationship, but a community with symbiotic prosperity and mutual support. Urban-rural development is a comprehensive integrated development of economy…" (Rao & Gao, 2022, p. 26). They also offer several policy implications to make urban-rural integration improved: (i) expand the scope of development and construction, and accelerate the construction of non-agricultural production, (ii) optimize the allocation of urban and rural resources, and enhance the flow of factors between urban and rural areas, (iii) promote the construction of urban and rural infrastructure and the coordinated development of service supply, (iv) promote the ecological environment construction, and improve the rural living facilities. (Rao & Gao, 2022, pp. 28-9) In our literature review, we did not identify any prior instances of factor and cluster analysis being applied in the manner presented in this paper within the context of Bosnia and Herzegovina. This novelty forms the foundation of our research.

RESEARCH METHODOLOGY

Factor analysis is used in analyses dealing with large data sets that intend to discover the most effective variables in a subject of research. In the paper factor values are calculated for each LGUs and utilized in factor analysis. All variables are summarized in an array of factors. Cluster analysis enables formation of groups or clusters with a certain degree of homogeneity and based on certain

characteristics. In other instances, it is used for classification of individual variables into categories. When applying factorial and cluster analysis methods in this paper, SPSS was used to process certain characteristics of socio-economic development.[vi] For this research, 11 variables - the socio-economic development index were selected as input variables for factor analysis. All variables are observed at LGUs level in three cantons in the Federation of BiH. Variables in the following table shed light on economic structure, living and working conditions, and demographic characteristics in LGUs.

Table 1 – List of variables with respective codes

Code	Description
X1	LGUs' own revenue, per inhabitant
X2	Employment in agriculture, hunting and fisheries as % of total employment
X3	Employment in manufacturing as % of total employment
X4	Employment in hotels, restaurants and real estate, renting and business activities as % of total employment
X5	Unemployment rate – share of unemployed persons in the labor force
X6	Employment as percentage of total population
X7	Gross domestic product per capita
X8	Low education index – persons without completed primary education as % of total population
X9	Ageing index – proportion of population of 65+ years of age in population
X10	Vital index – ratio of population of 15-64 over 65+ years of age
X11	Tourist nights

Source: Authors based on (Rašić-Bakarić, 2006) *with minor adjustments to data available in statistics of BiH.*

Some variables from the above table deserve more explanation. *LGUs' own revenue (X1)* includes tax- and non-tax revenue. Many LGUs suffer from insufficient financial resources for their developmental goals to be achieved and their budgets barely satisfy funding requirements of their self-governing mandates. LGU's own revenue was considered a better indicator of LGUs' economic strength than LGUs' total revenue, since it excludes transfers received and various subsidies from the upper tier government levels in the Federation of BiH. Data for this variable comes from the budget execution reports published by LGUs on their official websites.

The economic structure of LGUs is analyzed by level of employment in different economic activities in LGUs. It is presented by *employment in the agriculture and related sectors (X2)* for primary sector*, employment in the manufacturing sector (X3)* for secondary sector*,* and *employment in hotels and restaurants, and real estate, renting and business activities (X4) and tourist nights (X11)* for tertiary sector. The values of X2, X3, and X4 are calculated by dividing the total number of employees in related activities by the total number of employees in LGUs.

The living and working conditions in LGUs are analyzed in segments presented by *unemployment rate (X5), employment rate (X6), GDP$_{pc}$ (X7), and low education index (X8).* Demographic aspects of LGUs are explored by analysis of *the ageing index (X9) and the vital index (X10).*

RESULTS AND DISCUSSION

It should be noted that there are significant variations in LGUs' own revenue. For instance, the Teočak municipality recorded the lowest revenue per inhabitant at 46 BAM, while the Kakanj municipality has the highest level at 276 BAM. The average own revenue for LGUs in 2019 was 110 BAM, with a standard deviation of 54 BAM.

The primary sector in LGUs averages at 9.3% with Doboj-Jug and Donji Vakuf being municipalities with the lowest (0.0%) and the highest (60%) shares of the primary sector in their

local economies. The manufacturing sector had the lowest percentage of workers in Sapna, accounting for only 4% of the workforce, while the highest percentage, 55%, was observed in Usora. The average value of this employment indicator for the LGUs analyzed in the paper in 2019 was 30%. The index value of the tertiary sector (X4) shows a range of 2% of employees in relevant economic activities in the municipality of Banovići to 9% of employees in these activities in the municipality of Donji Vakuf. Across the towns and municipalities observed in the three cantons, an average of 4% of employees were engaged in the economic activities related to tertiary sector in this paper. An additional aspect of the tertiary sector is presented in tourism with the number of tourist nights recorded in LGUs. In LGUs with zero tourist nights (0), no accommodation facility or hotels are registered at the Tourism Office. The highest number of tourist nights was recorded in the municipality of Olovo. Considering economic structure as analyzed in this paper, the secondary sector dominates in local economies with the tertiary and the primary sectors following at lower levels of significance.

Living and working conditions are assessed, starting with the unemployment rate (X5). The range of values for the unemployment rate (X5) varies from the lowest rate measured in Usora (24%) to the highest rate in Sapna (76%). The average unemployment rate across all LGUs is 44%. It's worth noting that the relatively high unemployment rate is influenced by the use of registered unemployment data in this paper, which includes informal unemployment within LGUs. Some researchers have documented the substantial, albeit decreasing, size of the informal economy in Bosnia and Herzegovina, estimating it to be around 30% of GDP (Pasovic & Efendic, 2018). The size of the informal economy in BiH has also been affected by significant economic shocks, such as changes in taxation policy, global economic crisis, or recent Covid-19 pandemics. Therefore, the findings regarding unemployment in LGUs should be interpreted with caution. The employment rate (X6) varies from the lowest value of 6% in the municipalities of Sapna and Teočak to the highest level of 47% in the municipality of Doboj-Jug, averaging at 20% for the LGUs analyzed in this paper. Regarding GDP per capita (GDP$_{pc}$), official statistics only report GDP data at the FBiH level. Thus, the value of this variable was estimated in LGUs.[vii] Since GDP is a simplified summary of an economy (Acemoglu et al., 2022), it can also serve the same role at the LGUs' level. The average GDP$_{pc}$ in 2019 for LGUs in this paper is 7,363 BAM, with the lowest level in the municipality of Sapna (2,457 BAM) and the highest level in the city of Tuzla (15,141 BAM). The Index of low education labor force (X8) stands for the quality of the labor force and is also an indicator for assessing living and working conditions. Here, a smaller value indicates a better situation. The best situation is observed in the municipality of Kiseljak, with only 3% of low-educated labor force, while the municipality of Čelić has an unfavorable situation with 13% of low-educated labor force in its population.

We used two demographic indicators, the ageing index (X9) and the vital index (X10), to examine the population's characteristics. An analysis of LGUs' demographics suggests that many of them are likely grappling with an ageing population issue. This is evident because the percentage of individuals aged 65 and older exceeds an average of 20.5% of the total population. However, there are variations among LGUs. For instance, Doboj-Jug stands out as an exception with only 11% of its population being over 65, the lowest value among all LGUs. On the other hand, some LGUs, like Vareš, face a significant challenge, with 24% of their population being 65 or older, indicating a serious ageing problem. Simultaneously, when we focus on the vital index, we find that the highest value, 6, is observed in the municipalities of Kalesija and Sapna. In contrast, the lowest value, 3, is seen in the municipality of Vareš. This discrepancy means that the labor force in Kalesija and Sapna is six times and in Vareš only three times larger than portion of 65+ population in those LGUs. Details about descriptive statistics on input variables of 36 LGUs are given in the following table.

Table 2 Descriptive statistics on input variables, 2019

Code	N	Minimum	Maximum	Mean	Std. Deviation
X1	36	46	276	110.1	54.3
X2	36	0	60	9.3	14.6

X3	36	4	55	30.0	14.6
X4	36	2	9	4.2	1.4
X5	36	24	76	43.9	12.8
X6	36	6	47	20.5	7.9
X7	36	2,457	15,141	7,363.3	3,004.4
X8	36	3	13	6.1	2.1
X9	36	11	24	14.7	2.5
X10	36	3	6	4.9	0.9
X11	36	0	68,796	8,545	16,146.2
Valid N (listwise)	36	-	-	-	-

Source: Authors.

Given that the results of the factor analysis will serve as inputs for the subsequent cluster analysis, we have opted for principal component analysis in this paper, following the approach outlined by Morrison (1987). We applied Varimax rotation to enhance the interpretability of the factor analysis results. This rotation technique simplifies the interpretation by highlighting a reduced set of variables with stronger loadings, while the remaining variables exhibit lower loadings.

Table 3–The loadings of factors before and after varimax rotation

Code	Component matrix				Rotated component matrix			
	1	2	3	4	1	2	3	4
X1-LGUs'own revenue, per inhabitant	0.575	0.058	0.070	0.409				
X2-Employment in agriculture, hunting and fisheries as % of total employment	-0.144	0.083	0.243	0.640				0.571
X3-Employment in manufacturing as % of total employment	0.053	0.078	-0.828	-0.211			-0.859	
X4-Employment in hotels, restaurants and real estate, renting and business activities as % of total employment	-0.180	0.517	-0.363	0.585				0.811
X5-Unemployment rate – share of unemployed persons in the labor force	-0.912	0.219	0.250	0.035	-0.891			
X6-Employment as percentage of total population	0.822	-0.481	0.037	-0.049	0.904			
X7-GDP$_{pc}$	0.874	-0.349	0.203	0.117	0.935			
X8-Low education index – persons without completed primary education as % of total population	-0.602	-0.081	0.527	-0.270	-0.580		0.505	
X9-Ageing index – proportion of population of 65+ years of age in population	0.500	0.770	0.154	-0.264		0.963		
X10-Vital index – ratio of population of 15-64 over 65+ years	-0.536	-0.762	-0.128	0.265		-0.968		
X11-Tourist nights	0.485	0.258	0.341	0.117				
Extraction Sums of Square (Total)	-	-	-	-	3.79	1.93	1.42	1.21
% Variance	-	-	-	-	34.5	17.6	12.9	11.0

Source: Authors.

We conducted the Scree test criterion and confirmed that the plotted line begins to straighten out at the four-factor mark. Additionally, it's important to note that, for the selection of factors for

analysis, it is a prerequisite that they collectively account for 60% of the variance or even less in some instances, as outlined by Hair et al. (2010). As illustrated in Table 3, the four selected factors collectively explain 76% of the variance.

The first factor, with a value of 3.79 and explaining 34.5% of the variance, displays a high positive factor loadings on variables X6 and X7 (indicating a positive correlation) and negative loadings on variables X5 and X8 (indicating a negative correlation). This factor characterizes LGUs with a robust economy, high employment, and GDP_{pc}, a low proportion of uneducated labor force, and a low unemployment rate.

The second factor, with value of 1.93 explains 17.6% of the variance, expresses high factor loadings with a positive sign on variable X9 and a negative sign on variable X10. It is positively correlated with variable X9 and negatively correlated with variable X10. It identifies LGUs facing an ageing population issue, and this demographic challenge is also negatively affecting the local labor markets.

The loading for the third factor is 1.42, and it accounts for 12.9% of the variance. The highest positive loading is observed for variable X8, while the highest negative loading is associated with variable X3. This implies that there is a positive influence of decreasing of low educational attainment in the workforce and a negative influence of it on employment in the manufacturing industry. This characteristic can be described as an adverse impact of low education levels on employment within the manufacturing sector. LGUs with a higher proportion of low-educated labor tend to exhibit lower levels of employment in the manufacturing sector.

The fourth factor shows a loading of 1.2 and accounts for 11% of the variance. The highest positive loadings are observed for variables X4 and X2, with no significant negative loadings associated with this factor. This factor is characterized by a strong influence of the primary sector and economic activities related such as tourism.

Regional inequalities among LGUs are primarily influenced by factor 1, which accounts for nearly half of the total variance in variables. This underscores the significance of GDP_{pc}, high levels of employment (along with low levels of unemployment), and an educated labor force within LGUs. In this paper, cluster analysis was employed to categorize LGUs into specific groups or clusters, with factor loadings serving as the input variables for the cluster analysis. The four factors obtained from the factor analysis are also utilized in the cluster analysis exhibited in Figure 1. As a result of this research, we identified three distinct clusters.
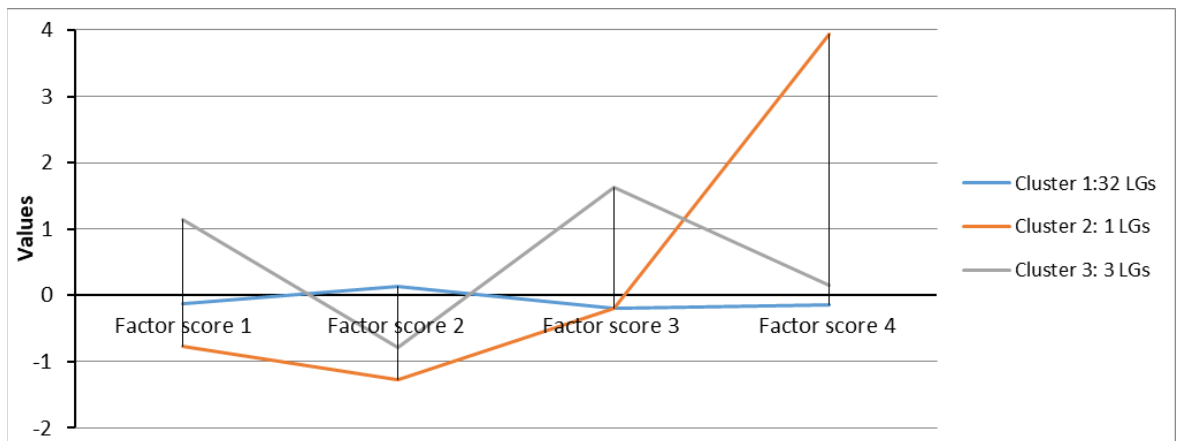

Figure 2 – Factors of socio-economic development, (means of clusters)

Source: Authors.

Cluster 1 includes 32 LGUs: Gračanica, Gradačac, Srebrenik, Tuzla, Visoko, Zenica, Živinice, Breza, Bugojno, Busovača, Čelić, Doboj Istok, Fojnica, Gornji Vakuf- Uskoplje, Jajce, Kalesija,

Kiseljak, Kladanj, Kreševo, Lukavac, Maglaj, Novi Travnik, Olovo, Sapna, Teočak, Tešanj, Travnik, Usora, Vareš, Vitez, Zavidovići and Žepče. This cluster has no significant negative relationship with any factor scores. Cluster 2 is negatively affected by factors 1 and 2 and positively affected with factor 4. This cluster contains only one municipality, Donji Vakuf.

Cluster 3 has a strong and positive relationship with factors 1 and 3, and negative relationship with factor 2. This cluster includes the following LGUs: Banovići, Kakanj, and Doboj-Jug.

CONCLUSION

Taking more decisive steps on the accession to the EU, BiH will inevitably adopt and implement the NUTS region classification, as it's a crucial requirement for gathering regional statistics, conducting socio-economic analyses, and formulating regional policies. In this research paper, we applied factor and cluster analysis techniques, leading to the identification of three distinct clusters characterized by similar development dimensions. Notably, our findings reveal that the administrative categorization of LGUs into cantons does not always align with their developmental characteristics. Not surprisingly, certain LGUs grouped within a single canton belong to different clusters. Furthermore, we examined revenues of LGUs, its economic and demographic structure, and some aspects of life and work and confirmed their importance for regional imbalances.

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INFLUENCE OF INNOVATION ON MICROECONOMIC COMPETITIVENESS IN BOSNIA AND HERZEGOVINA

ABSTRACT

Today, innovation is the main factor in the development and increase in the competitiveness of companies all over the world, including Bosnia and Herzegovina. Innovation is crucial for long-term growth and survival of most businesses, especially SMEs. Global spending on research and development has continued to grow, more than doubling over the 20-year period between 1996 and 2016. In 2016, the total expenditure on research and development in the world increased by 3%. Hence, innovation was considered as an independent variable in this research. Microeconomic competitiveness was observed as a dependent variable in the research. The paper presents data from a sample of 107 companies, processed using statistical techniques and methods of inferential and descriptive statistics, where appropriate software support was used for the processing and analysis of the collected data in the form of the Microsoft Excel program and the statistical program IBM SPSS Statistics.
The innovativeness of SMEs was observed in its overall form and was conceptualized through indicators of product innovation, process innovation, and organization and marketing innovation. The most important components of microeconomic competitiveness are the business design and strategy of the company, the quality of the national business environment and the state of cluster development. All these indicators were measured with a five-point Likert response scale, therefore, regression analysis was used to test the hypothesis. The coefficient of determination, which shows how much of the variance of the dependent variable is explained by the model, shows that the model explains 24.4% of the variance of microeconomic competitiveness, while the statistical significance of that indicator shown in the ANOVA table (Sig.=0.000<0.05) shows that the model reaches statistical significance. The beta indicator, that is, its significance of less than 0.05, shows that innovation makes a significant unique contribution to the prediction of the microeconomic competitiveness of SMEs.

Keywords: innovation, business environment, microeconomic competitiveness, SMEs

JEL: O31, O33

INTRODUCTION

Microeconomic competitiveness has a direct effect on the level of productivity of a company. In the last few years, there has been an increased interest of policy makers in Europe and around the world to encourage the development of the SMEs sector. There is also an increased interest of policy makers in encouraging innovation, and it is often emphasized that the high growth of companies is based on innovation. BiH has a relatively low growth of innovative companies that could quickly become global leaders in the region and beyond.

In recent years in BiH, there has been a more intensive approach to building assumptions for the development of SMEs and entrepreneurship, which refers to the gradual introduction of the market

economy system, economic freedom, private ownership, and innovation. To be able to measure the development of SMEs in transition countries, the European Commission (UN/ECE) adopted the Index of SME Development. It is a complex economic indicator that includes: the share of the private sector in the total economy, the share of SMEs in GDP, the share of employees in SMEs in the total number of employees in the country. Starting from the set research problem, and based on known previous research, the key question is whether innovative SMEs can contribute to the microeconomic competitiveness of small and medium-sized enterprises in Bosnia and Herzegovina. The main goal of the subject research is to determine the role and importance of innovative SMEs and their impact on the microeconomic competitiveness of companies in BiH. From the previously determined research problem, for the purpose of processing the research problem as well as possible and fulfilling the previously stated research goals, we can define a central scientific hypothesis as follows: *Innovative companies contribute to increasing the microeconomic competitiveness of companies in Bosnia and Herzegovina.* Based on the central research hypothesis formulated in this way, the goal is to observe the microeconomic competitive ability of a company as a dependent variable through several basic aggregates listed below, and innovation as an independent variable. Indicators of the independent hypothesis are innovativeness of products, processes and organization and marketing in Bosnian and Herzegovinian companies.

1. OVERVIEW OF PREVIOUS RESEARCH

Michael Porter (2008) listed four factors of competitiveness, which he calls the diamond that affects labor productivity, that is, a company's competitive advantages, namely: production factors, conditions of demand, industry development and the structure, and rivalry between companies. White and a group of authors (1988), in one of the pioneering studies in the field of innovation, present clear evidence of the existence of a significant relationship between the degree of innovation and the growth of a company. Recent literature (Guellec and van Pottelsberghe 2004), on the function of research and development at the company level, emphasizes the importance of knowledge to the creation of innovation, suggesting a strong complementary role between internal and external research. By analogy, universities can play a dual role within the region, the creation (or co-creation) of knowledge and the absorption of knowledge outside the region. In general, spillovers and productivity benefits are likely to be greatest from publicly funded basic research that contributes to public knowledge.

Innovation is associated with creativity and the creation of a new idea, and it involves taking those new ideas and turning them into reality through invention, research and development of new products. Furthermore, innovation may be seen as a process that transforms knowledge into economic growth and social welfare. It includes all scientific, technological, organizational, economic and commercial activities. Research, in the context of innovation, is directed towards one of these activities and may be performed in different ways through the stages of the innovation process.

Piza et al. (2016), in their paper "The Impact of Business Support Services for Small and Medium Enterprises on Company Performance in Low- and Middle-Income Countries: A Systematic Review", report that the World Bank, in the period from 2006 to 2012, invested over $40 billion in the SME sector, which best reflects the seriousness of efforts to improve it (Piza, Cravo, Taylor, et al., 2016). Kleinknecht, A., Mohnen (2003) state that the innovativeness of companies is one of the key factors of their success on the market. Lumpkin and Dess (1996) agree with the mentioned authors, who believe that the capacity of organizational innovation has a positive effect on the growth of a company. In their research, Neely and Hii (1998) present findings that a company's tendency to develop new products and services (high degree of innovation) leads to its faster adaptation in the context of changes on the market. If we consider that innovation in its "nucleus" implies the permanent development of new products and services, business processes and business

models, only such an approach to modern business leads to sustainable performance in current complex and dynamic environment (Cottam et al., 2001). Frieden & Lake (2003) state that the basic parameters of competitiveness are growth dynamics, privatization process, restructuring, specialization and geographic concentration of competitors, export orientation and infrastructure development.

Educated people are good innovators, therefore, education accelerates the process of technological diffusion. Experience, added to education, will increase the level of learning by doing. The experience implied in the human factor greatly contributes to innovation. Opportunities in human resources thus become essential elements for the application of technology and knowledge to the creation of products and services. In addition to the afore mentioned authors, Leonidou, Katsikeas and Samiee 2002; Faco and Csillag; 2010; Soliman, 2011, present clear evidence of a significant relationship between the degree of a company's propensity for innovation on one hand, and the growth and development of a company on the other hand, which leads to an increase in microeconomic competitiveness.

Bi and Li (2015), in their study, based on a sample of 377 representatives of small and medium-sized industrial enterprises in China, present findings that indicate the positive impact of innovation on the growth and development of companies.

The aim of forming the innovation index is to measure the achieved level of innovation of individual countries, based on two sub-indexes: the Index of Innovation Inputs and the Index of Innovation Outputs. Each of these sub-indexes is built from pillars (The Global Competitiveness Report 2016-2017, World Economic Forum, Geneva, 2017).

In their paper: Innovations and Competitiveness at the Global Level, Jovičić and Mirković (2016) research the competitiveness of economies at the global level and emphasize that it depends on how much the economies of individual countries are ready and trained to be leaders in the creation and application of certain innovations. Special focus is on the criteria that are relevant for determining the level of competitiveness and innovative ability of individual countries, with an emphasis on the position of Bosnia and Herzegovina (Jovičić and Mirković 2016).

2. EMPIRICAL RESEARCH METHODOLOGY

The collection of primary data for the purposes of this research was conducted using the method of written survey, using questionnaires as a data collection form. The same was done partly in electronic form, using the *google.forms* platform for online surveys, where the request for participation was distributed to the respondents via e-mail, while the other part of the survey questionnaires was collected in direct contact with the respondents. During the period of primary data collection, answers were collected from a total of 130 respondents, whereby, due to observed irregularities in the sense of missing answers, 23 questionnaires had to be excluded from further analysis, therefore, for the research of innovation as a function of the microeconomic competitiveness of small and medium-sized enterprises in Bosnia and Herzegovina, data obtained from a sample of a total of 107 respondents will be considered.
Research sample includes 76.64% of companiesbased in the territory of the Federation of Bosnia and Herzegovina and 23.36% ofcompanies based in the territory of the Republic of Srpska. None of the companies in thesample is based in the territory of Brčko District.The questionnaire used in the research was designed in several parts, therefore, answers were collected about the demographic characteristics of the respondents, company characteristics, product innovation (goods or services), process innovations (production), the effects of innovation, organizational and marketing innovations, easiness of doing business in Bosnia and Herzegovina.

The questionnaire was mostly structured in the form of closed-ended questions in which respondents were required to circle one of the offered alternative answers. A large part of the questions was formulated using a five-point Likert scale, whereby respondents had the opportunity to rate their degree of agreement with the presented statements. The collected data were processed using statistical techniques and methods of inferential and descriptive statistics, where appropriate software support in the form of Microsoft Excel and IBM SPSS Statistics was used for processing and analyzing the collected data. The obtained results will be presented below, after which the analysis and interpretation of the descriptive statistical indicators will be performed.

2.1. Demographic characteristics of the respondents

As previously mentioned, the research on innovation as a function of the microeconomic competitiveness of small and medium-sized enterprises in Bosnia and Herzegovina included a total of 107 respondents of different gender, age, level of education and position as employees in Bosnian and Herzegovinian enterprises with different characteristics of ownership, length of business, territorial affiliation, activity, legal form, the participation of highly educated personnel in the structure of employees, the market where they deliver their products and services, and the number of employees. The gender structure of the respondents is presented in Table 1. The results show that the survey included 71.03% male respondents and 28.79% female respondents. Also, the research sample includes respondents of different age categories, therefore, the following Table shows the distribution of respondents by age.

Table 1. Distribution of respondents by age

Age	Number of respondents
Up to 30 years of age	25
31-50 years of age	54
51-65 years of age	28
Total	107

Source: Authors' calculations

The presented distribution shows the highest frequency of middle-aged respondents. Namely, as presented in Table 1, approximately half of the respondents included in our research, 50.47% of them, are between 31 and 50 years of age. 26.17% of them are between 51 and 65 years of age, while the remaining 23.36% are respondents younger than 30 years. Considering this, we can state that slightly less than half of the respondents, 46.73% of them, are employed in the manager position. The function of director is held by 35.51%, head of a company's organizational unit by 14.02%, and accountants by 1.87% of respondents in the sample. The remaining 1.87% of respondents in the sample are employed in some of the other positions.

Table 2. Distribution of respondents by position in a company

Position in a company	Number of respondents	% of respondents
Director	38	35.51
Manager	50	46.73

Head of a company's organizational unit (manufacturing, procurement, and such)	15	14.02
Accountant	2	1.87
Other	2	1.87
Total	107	100.00

Source: Authors' calculations

2.2. Demographic-economic characteristics of a company

In addition to the demographic characteristics of the respondents presented in the previous part of the paper, in the process of collecting primary data, data was also collected on the individual characteristics of the companies where the respondents were employed. By far the largest percentage of companies in the sample refers to companies that are in domestic private ownership. 79.44% of companies in the sample belong to this category of companies. 9.35% of companies are in domestic public (state) ownership, while 11.21% of companies in the research sample are in foreign private ownership. The presented structure shows that 44.86% companies in the sample have been in business for the period between 10 and 20 years, 28.04% of them have been operating on the market for less than 10 years, while 27.10% of them are companies with a long tradition, that is, business that lasts more than 20 years. Considering that data on the headquarters of companies were also collected through the survey questionnaire, during processing of the data, and considering the territorial and political organization of Bosnia and Herzegovina, distribution of respondents' answers was made, where data were used for the construction of the company's structure according to this characteristic. The obtained percentages show that the research sample includes 76.64% of companies based in the territory of the Federation of Bosnia and Herzegovina and 23.36% of companies based in the territory of the Republic of Srpska. None of the companies in the sample is based in the territory of Brčko District of BiH. At the end of the part of the questionnaire that refers to the company's characteristics, data was collected on the number of employed workers in two time periods: in 2016 and 2020. Given that the operationalization of this indicator was carried out using a ratio measurement scale, descriptive statistical indicators were calculated, and the results are presented in Table 3. It shows data on the number of employees in terms of average or mean value, mode, median, and standard deviation within each indicator.

Table 3. Descriptive indicators of employee numbers

Indicator	Mean	Median	Mode	Standard deviation
Total number of employees in a company in 2016	69.35	50.00	30	62.646
Total number of employees in a company in 2020	85.00	80.00	90	59.241

Source: Authors' calculations

Arithmetic mean is the most important and most commonly used mean value. In everyday life, it is very often also called the average or the average value.

3. PRESENTATION OF EMPIRICAL RESEARCH RESULTS

The success of innovations can be measured through various effects such as: income from sales of new products and services, customer satisfaction, return on invested research and development, larger margin, number of new products or services, and so on, while these are not mutually exclusive options. Therefore, the respondents, through the possibility of multiple selection in the

questionnaire, were required to identify how the success of innovations in the companies in which they are employed, is measured. The distribution of responses is presented in the following Table.

Table 5. Distribution of companies by the ways in which success of innovations is measured

Way in which success of innovations is measured in a company?	Number of companies	% of companies
Through income from sales of new products and services	33	30.84
Through customer satisfaction	12	11.21
Through return on invested research and development	4	3.74
Through larger margin	26	24.30
Through number of new products or services	13	12.15
Through something else	2	1.87
Certain practice is not represented in a company	7	6.54
Through income from sales of new products and services and customer satisfaction	4	3.74
Through income from sales of new products and services and a larger margin	1	0.93
Through income from sales of new products and services, customer satisfaction and number of new products/services	2	1.87
Through income from sales of new products and services, larger margin and number of new products/services	1	0.93
Total	107	100.00

Source: Authors' calculations

Through observation of the presented distribution, it may be seen that a part of the respondents, 9.34% of them, when answering this question, identified more than one way of measuring the success of innovations in the company, so with the aim of generalizing the results of this part of the analysis, and fear from possibly wrong interpretations and drawing conclusions, based on the previous Table, the number and percentage of companies that apply each of the individual response modalities, that is, measurement methods, independently or in their mutual combination, was calculated. The results are presented in Table 4.

Table 4. Frequency of application of certain methods of measuring the success of innovations

Through income from sales of new products and services	43	40.19
Through customer satisfaction	18	16.82
Through return on invested research and development	4	3.74
Through larger margin	28	26.17
Through number of new products or services	18	16.81
Through something else	2	1.87

Source: Authors' calculations

The success of a company's innovation is most often measured through income from sales of new products and services (40.19%), larger margin (26.17%), customer satisfaction (16.82%) and the number of new products or services (16.81%). On the other hand, a significantly smaller percentage of companies that measure the success of innovations through the return on investment in research and development (3.74%) or some other way (1.87%) were recorded. At the end of this part of the questionnaire, the respondents were asked to, using a five-point Likert response scale (1 - completely disagree, 2 - partially disagree, 3 – neutral opinion, 4 - partially agree, 5 - completely agree) express their position on 22 indicators of product innovation (goods and services). The distribution of their answers by all individual indicators is presented.

Table 6. Distribution of respondents' answers for indicators of product innovation

	Completely disagree		Partially disagree		Neutral opinion		Partially agree		Completely agree	
	[1]	%	[1]	%	[1]	%	[1]	%	[1]	%
The company is a leader with the placement of new products and services on the market.	46	42.99	41	38.32	16	14.95	2	1.87	2	1.87
The company has a defined program/strategy and budget aimed at improving innovation.	1	0.93	11	10.28	79	73.83	16	14.95	0	0.00
The economic policy of the country affects the innovativeness of companies.	1	0.93	7	6.54	22	20.56	45	42.06	32	29.91
Your customers are happy to accept new products and services.	0	0.00	2	1.87	23	21.50	53	49.53	29	27.10
The company has developed far more than the competition with new products and services in the last five years.	5	4.67	12	11.21	68	63.55	21	19.63	1	0.93
The company is constantly improving the quality of old products and services.	2	1.87	2	1.87	22	20.56	70	65.42	11	10.28
In the company, there are employees/departments that exclusively focus on the field of innovation	24	22.43	18	16.82	41	38.32	13	12.15	11	10.28
The company always takes into account suggestions and customer satisfaction when creating new products and services.	1	0.93	6	5.61	42	39.25	27	25.23	31	28.97
Compared to its competitors, the company is much better at innovation management (creating new markets, creating new price models, creating new distribution channels, and such).	8	7.48	36	33.64	46	42.99	15	14.02	2	1.87
The company constantly emphasizes the importance of education in the field of innovation management.	14	13.08	28	26.17	54	50.47	7	6.54	4	3.74
Innovative proposals and ideas are always welcome in the company.	1	0.93	7	6.54	31	28.97	40	37.38	28	26.17
Company management is always looking for new ideas from employees.	4	3.74	4	3.74	34	31.78	26	24.30	39	36.45
During the last three years, the company received public financial support for innovation activities from the local or regional government.	55	51.40	17	15.89	22	20.56	11	10.28	2	1.87
During the last three years, the company received public financial support for innovation activities from the national or entity authorities.	78	72.90	14	13.08	8	7.48	5	4.67	2	1.87
During the last three years, the company received public financial support for innovation activities from the EU.	80	74.77	10	9.35	10	9.35	3	2.80	4	3.74
In the company, innovations are not seen as risky business activities.	2	1.87	7	6.54	26	24.30	35	32.71	37	34.58
In the company, employees are not punished in case their innovation brings negative business results.	2	1.87	2	1.87	9	8.41	54	50.47	40	37.38
The company's employees have a clear vision of how innovations will help in market competition.	10	9.35	40	37.38	25	23.36	21	19.63	11	10.28
The management of the company	6	5.61	21	19.63	20	18.69	25	23.36	35	32.71

has a clear vision of how the company will develop through innovation.								
The company's management is prone to innovation.	0	0.00	3	2.80	18	16.82	54	50.47	32	29.91
There is no shortage of financial resources in the company.	8	7.48	11	10.28	12	11.21	21	19.63	55	51.40
There is excellent coordination between departments in the company.	0	0.00	2	1.87	10	9.35	49	45.79	46	42.99

Source: Authors' calculations

As presented in the previous Table, the highest degree of agreement among respondents, when it comes to product innovation, was shown in the statement "There is excellent coordination between departments in the company", where 45.79% of respondents answered "partially agree" and 42.99% of them "completely agree", and " In the company, employees are not punished in case their innovation brings negative business results", where the answers of 87.85% of respondents were recorded in the zone of agreement, since 50.47% of respondents answered "partially agree" and 37.38% of them "completely agree".

On the other hand, the lowest degree of agreement was recorded with the statement "The company is a leader with the placement of new products and services on the market", where only 1.87% of respondents answered "partially agree" and "completely agree", and statements "During the last three years, the company received public financial support for innovation activities from the national or entity authorities" and "During the last three years, the company received public financial support for innovation activities from the EU", where only 6.54% of respondents answered recorded in the zone of agreement.

4. TESTING THE CONTRIBUTION OF INNOVATIVE COMPANIES TO INCREASING MICROECONOMIC COMPETITIVENESS

The innovativeness of a company was observed in its overall form and was conceptualized through indicators of product innovation, process innovation and organization and marketing innovation. In other words, in relation to the first three working hypotheses, in which each of these dimensions was observed individually, in the fourth working hypothesis, the innovativeness of small and medium enterprises in Bosnia and Herzegovina is conceptualized through a collection of indicators of all these dimensions. Microeconomic competitiveness, on the other hand, represents a collection of the same indicators as used in earlier working hypotheses. All these indicators were measured with a five-point Likert response scale, so a regression analysis was used to test the hypothesis, the first part of the results of which is shown in the following tabular reviews.

Table 8. Evaluating the model of the contribution of company innovation to microeconomic competitiveness

Model summaryb				
Model	R	Cooefficient of determination	Adjusted coefficient of determination	Standard error of estimate
1	0.494[a]	0.244	0.236	3.97581
a. Predictor: INNOVATIVENESS OF SMALL AND MEDIUM-SIZED ENTERPRISES				
b. Dependent variable: MICROECONOMIC COMPETITIVENESS				

ANOVA					
Model	Sum of squares	df	Average of squares	F	Sig.

		534.559	1	534.559	33.818	0.000
	Regression part					
1	Residual part	1659.740	105	15.807		
	Total	2194.299	106			

Source: Authors' calculations

The coefficient of determination, which shows how much of the variance of the dependent variable is explained by the model, shows that the model explains 24.4% of the variance of microeconomic competitiveness, while the statistical significance of this indicator shown in the ANOVA table (Sig.=0.000<0.05) shows that the model reaches statistical significance. The beta indicator in Table 8, that is, its significance of less than 0.05 shows that innovation makes a significant unique contribution to the prediction of the microeconomic competitiveness of the company.

Table 9. Coefficients of the regression analysis model of the contribution of company innovation to microeconomic competitiveness

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	St. error	Beta		
1	(Constant)	12.350	5.086		2.428	0.017
	PRODUCT INNOVATION	0.226	0.039	0.494	5.815	0.000

Source: Authors' calculations

Based on all the above, the fourth auxiliary hypothesis is accepted, and it is concluded that innovative small and medium-sized enterprises contribute to increasing the microeconomic competitiveness of companies in Bosnia and Herzegovina.

CONCLUSION

The term innovation means a new way of operating. It may refer to incremental, radical, and revolutionary changes in thinking, products, processes, or organization. Innovation, therefore, may be defined as the creation, development and implementation of a new product, process or service, the aim of which is to improve efficiency, effectiveness or competitive advantage. Companies that intend to be successful in modern business conditions, that strive to conquer new markets, provide new products and services in their organizational strategy, must have a part related to innovation. However, innovation is not only part of a company's business strategy, it drives the economic well-being of an entire country. Practice has shown that the innovative way of doing business has led many companies to significant progress both on the domestic and world markets. This leads to numerous advantages for the entire country in which a certain company is located, which concludes that innovation is what promotes long-term economic growth and development of a country.

Innovation may be applied to products, services, production processes, management processes or organization design. Most often, the production or process level is considered, where innovation contributes to increasing customer satisfaction, but also to increasing the efficiency and effectiveness of the company. In recent years, the contribution of SMEs to economic growth, creation of new jobs, innovation and promotion of enterprises has been widespread. Although SMEs are important in the aforementioned sense, it is still believed that their overall share in GDP is smaller compared to large companies, since SMEs lack managerial and technical skills, which hinders their efficiency. Therefore, improving the competitive advantage of SMEs is important, both for individual companies and for the national economy as a whole.

Microeconomic competitiveness, on the other hand, represents a collection of the same indicators as used in earlier working hypotheses. All these indicators were measured with a five-point Likert response scale, therefore, the regression analysis was used to test the hypothesis. The coefficient of determination, which shows how much of the variance of the dependent variable is explained by the model, shows that the model explains 24.4% of the variance of microeconomic competitiveness, while the statistical significance of this indicator shown in the ANOVA table (Sig.=0.000<0.05) shows that the model reaches statistical significance. The beta indicator in Table 5.37, that is, its significance of less than 0.05 shows that innovation makes a significant unique contribution to the prediction of the microeconomic competitiveness of small and medium-sized enterprises.

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ASSESMENT OF LOCAL ECONOMIC DEVELOPMENT OF NORTH MACEDONIA: MUNICIPALITIES' ANALYSIS

ABSTRACT

Measured by various objective indicators such as assessments of the urban and rural planning, valuation of the environmental and anti-pollution strategies, the adequacy of communal services, the impact of the economic policies, and educational and social care services, the local economic development (LED) concept offers insight into the functioning of the local economies and into the local government policies' impact. This research aims to fill the gap in the literature by examining the residents' satisfaction of the degree to which various LED indicators are considered real problems in their local communities for the case of North Macedonia.

The paper is largely exploratory offering theoretical understanding of perceptions of economic problems on a local scale. In addition, using survey data from various municipalities with divergent economic development patterns in North Macedonia, the multidimensional structure of the overall residents' satisfaction is constructed, where perceptions of the various dimensions of municipalities' competences are assessed. Across the municipalities, the biggest dissatisfaction of the residents was related to the public areas' maintenance, municipality waste management, and communal services. However, for some LED indicators, the results are more divergent, such as the traffic related problems and the local roads adequacy, with rural municipalities recording higher residents' satisfaction.

This analysis gives rise to an improved diagnostic assessment of local economic resources pointing out the most rigorous problems in North Macedonia, leading to a more robust economic strategy and evidence-based decision making. The implementation of the local development goals and measurable indicators can become an important contribution to the local economic performance and can become increasingly important for North Macedonia, considering the upcoming global crisis and inter-state migrations, as well as technological advances and consequential spatial differences and imbalances.

Keywords: local economic development, sustainable growth, citizens' perceptions, North Macedonia

JEL: O18, H75, E71

INTRODUCTION

Compared to the past, when the phrase "economic development" was tightly related with the phrase "state," now, there is increasing discussion about decentralizing the concept of economic growth on a regional or local level. Namely, nowadays, local economic development (LED) emerges as a concept, as a result of the increasing trend local communities to take on the majority of the responsibilities, obligations and public finances for the enhancement of residents' quality of life and

their standard. Hence, government directed economic growth is relegated and increasing accent is placed on bottom-up, community-directed local economic development.

The concept of local economic development involves providing financial, physical, or information resources by the local government bodies or municipalities, but also it involves human development and cultural and working attitudes within a certain local place as well as perceptions, values and norms of residents which are increasingly recognized as important components for successful LED growth (UN, 2015, p.10). Local based development is wider social concept that uses local resources to maximize productivity and profit on a local level, at the same time valuing local social and cultural capital and cooperative values, and creating local market with specific supply and demand. Mobilization of the local people, however, is dependent upon a perception and the satisfaction from the work of local governing bodies and the widespread sense of "receiving value for (the tax) money paid". Without a common perception and cooperation among residents and local bodies, the LED process cannot be sustained. Therefore, it is very interesting to assess how this two-way relation among the local bodies and local residents' functions, reinforcing or hindering the local-led growth in the case of North Macedonia, an ex-transition country that started to apply this concept only after the decentralization process was introduced two decades ago.

The paper is largely based on a theoretical and statistical understanding of perceptions of economic problems on a local scale. Using survey data from various municipalities with divergent economic development patterns in North Macedonia, the multidimensional structure of the overall residents' satisfaction is constructed, where perceptions of the various dimensions of municipalities' competences are measured. The descriptive statistics reveals that most municipalities have problems in communication strategy with their residents, with above 70 percent of residents reporting to be not informed properly. In addition, across the municipalities, the biggest dissatisfaction of the residents was related to the public areas' maintenance, municipality waste management, and communal services. However, for some LED indicators, the results are more divergent, such as the traffic related problems and the local roads adequacy, with rural municipalities recording higher residents' satisfaction, which is surprising. In general, the evidence confirms that there is a high level of dissatisfaction among the residents of the municipalities in North Macedonia, with relatively small variations among various municipalities.

The analysis pointed out that only well communicated and targeted implementation of local development measures can raise residents' satisfaction and development prospects in the local communities in North Macedonia. This analysis also gives rise to an improved diagnostic assessment of local economic resources in the future, pointing out the most rigorous problems. Finally, it can lead to a more robust economic strategy and evidence-based decision making. In general, the evidence and literature show that the implementation of the local development goals and measurable indicators can become an important contribution to national economic performance and can become increasingly important for North Macedonia, considering the upcoming global crisis and inter-state migrations, as well as technological advances and consequential spatial differences and imbalances.

The paper is structured as follows. After the introduction, the first part reviews the literature related to the LED concept and offers insight into the empirical findings in various studies. The second part presents the methodology and survey characteristics, the third part discusses the results, while the final part brings forward the policy implications and conclusions.

THEORETICAL BACKGROUND AND PREVIOUS FINDINGS

Until recently, neither conventional economic theory nor the empirical research fully addressed the two-way relationships among residents and local authorities within the LED framework. However, in recent years, researchers have become increasingly interested in studying and measuring the level of citizens' satisfaction with public local services in order to make suggestions for raising both citizen satisfaction and the quality of public services. These relations are important forces that can indirectly enforce or hinder local economic growth, alongside the core local resources, such as

human and physical capital, social and cultural capital, innovation and entrepreneurship. The interrelation can be presented in two-circle model, with real factors presented in the inside circle, and perceptions in the outside circle.

As mentioned, local resources are the basis of the local economic growth, that are used for the economic activity and maximizing profit. Conventional resources, such as human and physical capital, land and entrepreneurship, accompanied by the new growth theory factors – such as innovation, social and cultural capital, together with the local institutional and policy setting (local government) are creating the region with local market with specific supply and demand and social setting. The market forces and outcomes create reinforcing/suppressing powers on the resources, closing the circle of real factors in the local economy as shown in the picture 1 below (inner circle marked in dark blue). However, the realization of the internal circle process (the mobilization of the local people and resources) depends largely on several segments of perceptions and motivations, marked in light blues arrows in the graph (outer circle in light blue arrows). They present, local government perceptions on the local economy and people's needs, on one side, but also perceptions and the satisfaction from the work of local governing bodies and the widespread sense of "receiving value for (the tax) money paid" from the local citizens, on the other side. Based on the perceptions and priorities, local government bodies create the local playing field for the businesses and people, through evidence-based analysis and policies. On the other side, the satisfaction from the local setting reinforces productivity, profits and investments of people and businesses, creating cooperative values within the local communities.

The literature on the relation among local economy and perceptions as a factor to use potentials is rare and it is mainly in the political area of research and mainly related to the success of elections. Namely, political research, suggest that local electorates should hold local political officials accountable for local conditions (Arnold & Carnes, 2012, Kaufmann, 2004). In addition, studies have found that local conditions, such as the state of the local economy, taxes, schools, and culture, public spaces, traffic are connected to local growth (Gwen et al, 2004). Local government policy and actions can be considered to have a direct impact on how satisfied citizens are with public institutions and their services. Their satisfaction impacts the mobilization of the resources people have, impact their actions and value and norms systems (social capital), hence affecting local growth. Many previous studies indicated a favorable relationship between people approval with local government actions and governance services and local growth. People's trust and engagement rises as a result of their satisfaction with the public local services. Furthermore, the surveys in various studies indicate that increasing social trust is positively impacted by the general public satisfaction with the public services provided by the local governments. (Zhou, X. at al.2021).

Perceptions and satisfaction of the local bodies and policies

Local government perceptions of local economy and people's

local resources- human phisical capital, eneterpreneurship, innovation, R and D

local government - insitutioans, policies, norms and rules

local market -supply and demand
productivity, profit, , local social capital cultural capital, values, norms

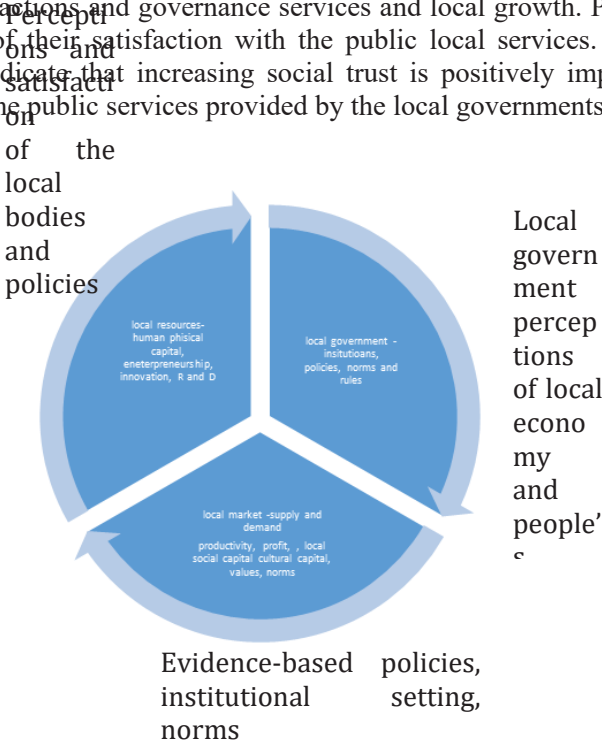Evidence-based policies, institutional setting, norms

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Figure 1. Local economy and perceptions circles

However, in the literature there are debates whether the public perceptions of the situation are always related to reality. Many scholars have suggested that the people perceptions are not always entirely grounded in reality, raising the doubt of whether people can make correct verdicts about political, social, and economic conditions. This is especially the case for the local economy perceptions, as in many instances the local issues cannot be distinguished from national level issues. However, according to some scholars, economic perceptions of people can be reliable indicator, as they are grounded in economic reality (Holbrook et al, 2019). It should be mentioned that these studies are mainly conducted for the cases of developed economies, starting from the important assumption of that people (or voters) have some level of understanding of the state of local conditions; that they can distinguish between national and local level issues, and between good and bad, without big political or other biases.

In general, studies on perceptions suggest that the local context comes "natural and close" to people and they have a capacity to grasp of what is generally happening where they live even when they do not pay much attention to local affairs. Nowadays, many media signals - social media, local television, neighbor talks - provide people with a general sense of local life, local finances use and problems. Haller and Norpoth (1997) found that even people have some glimpse of economic conditions.

The research interest of measuring perceptions of main LED indicators is especially pronounced in the transition countries, that in the last two decades have been reconsidering their fiscal systems and balance between central government control and decentralized governance. Namely in relatively short span of two decades, these countries started with the massive reforming process of public sector, public finance and public administration. The process started with establishing of regional or local levels of self-government, continued with shifting the responsibilities to the lower government levels (regions and municipalities) and finally with the shift of finances and resources. The shift of responsibilities, powers and resources was in some countries disharmonized, such as North Macedonia, causing many problems in the actual fiscal decentralization. In general, the political decentralization has advanced in most ex-transition countries, however in economic and social terms the advancements are somehow lagging, which in turn creates dissatisfaction among people with the local services. Local expenditures in transition countries as a percentage of total public expenditures have also increased over the past two decades. However, in many countries, the central government is still involved in some local services, as a result of insufficient finances and limited access to borrowing of local bodies. This situation does not address regional fiscal equity. In addition, it does not enforce appropriate incentives for fiscal discipline from local bodies, and also do not stimulate the improvement of service delivery performance, and accountability to local people. Hence, dissatisfaction and bad perceptions of local bodies work and services emerges which can result in hindering of local economy and local growth.

North Macedonia started fiscal decentralisation only in the last two decades. Initiated as one of the priorities arising from the accession partnership with the European Union, North Macedonia implemented the fiscal decentralization splitting it into phases. The main principle of the phased approach was the gradual transfer of responsibilities to the local authorities (municipalities), accompanied by appropriate transfer of funds from the government. In accordance with their capacity to take on the responsibilities, all municipalities in the Republic of North Macedonia passed the phases of fiscal decentralization, that is they performed the administration and financing of the decentralized competences in the main areas of local activity such as culture, education, child and social protection. However, although they have developed various measures and activities to strengthen the capacities for financial and operative management, which contributed to a significant increase in collection of their revenues, still challenges related to the transparency and efficiency of the work done by the local bodies remains (CEA, 20). This affects residents' perceptions of the local bodies' work, which in turn deters the collaboration and impedes the local-led growth. The vicious circle reinforces itself. Hence, this paper examines North Macedonia residents' current attitudes towards and perceptions of LED, by measuring several indicators – overall performance,

value for money in services and infrastructure, community information, local infrastructure, maintenance and communal services.

METHODOLOGY

Integrating LED theory, political studies of retrospective voting, and previous research has led to the development of a framework with which to conceptualize the explained relations. In terms of measuring people satisfaction, appropriately designed surveys have been developed in order to disclose a lot information about how effectively (local) governments are performing. Therefore, by conducting citizen satisfaction surveys, as the most popular technique for determining preferences and satisfaction, scholars, but also local governments can evaluate the quality of the products and services they deliver, they can conduct analyses and consequently improve their policies (Swindell & Kelly, 2000).

The factors affecting citizen perception of public services have been in the focus of numerous studies, leading to a list with a significant number of factors, including the following: public roads and transportation, public spaces maintenance, education social and culture offer, perception on corruption, general hygiene that affect both local development perception, but also voting and election results (Niemi et al.,1999, Franko, 2017, Lewis-Beck, et al.,2013).

In general, the methodological framework is centered around the assessment of the general satisfaction or dissatisfaction in North Macedonia, that is the efficiency of local bodies in ensuring the main LED indicators. In general, the research adopts a mixed-methods approach, combining qualitative methods and statistical descriptive method. Data on perceptions are collected through structured survey administered online. A sample of 314 individuals from North Macedonia participated in the study. However, main drawback is the online character of the questionary that was used in order to initially asses their perceptions. In addition, it should be mentioned that the sample was imbalanced in several categories, posing serious caution in drawing conclusions and generalization of the results. Finally, the sample size did not allow for multivariate analysis, hence, here the descriptive statistical analysis is provided. The main characteristics of the sample are summarized in the following Table.

Table 1 Sample characteristics

Category	Category	Frequency	Ratio (%)
Gender	Female	212	67.4%
	Male	102	32.6%
Age (years)	Under 18	4	1.6
	19 – 30	176	55.7
	31 - 50	91	29.1
	Over 51	43	13.6
Education	Primary education	4	1.3
	Secondary education	100	32
	High education	186	59.2
	Graduate or master	17	5.4
	Doctor of philosophy	7	2.2
Ethnicity	Macedonian	251	80.4
	Albaninan	19	6.3
	Turkish	13	4.1
	Roma	13	4.1
	Bosniak	3	0.9
	Vlahos	6	1.9
	Serbian	6	1.9

Source: Authors' Own calculations.

The data are analyzed using descriptive statistical techniques and thematic analysis to identify patterns and themes related to perceptions on local bodies services, and to generate qualitative evidence to support the research findings. It should be mentioned that the meaning and measurement of perceptions are debatable regarding the possible biases that can occur due to fact that they are perceived and reported by subjects without any verification of actual events. Perceptions based on self-reporting are usually used in psychological and political studies or as a last resort in other fields. The latter is especially in cases of lack of data, which is our case.

RESULTS AND DISSCUSION

Drawing from previous studies, the survey in this paper explores similar questions to assess the level and types of perceived local bodies services by the respondents, as well as their awareness of the role of local institutions and their effectiveness. Furthermore, the effort is made to asses with the conducted online survey consisting of 20 items that asked participants to indicate their perceptions on various matters. Main questions include " Are you satisfied with waste management? "How satisfied you are with the air pollution strategies and results?" "How satisfied are you with educational/cultural/social services?" "What do you think of roads and other infrastructure in your municipality?" and "Do you feel informed about the local policies?" "Were you satisfied with the involvement in decision making?" The responses were kept simple, on a 5-point Likert-type response format, starting from 1 extremely dissatisfied to 5 – extremely satisfied. Education, age and income were used as a marker of socioeconomic status. The background characteristics of the respondents varied. With most of the respondents belonging to the age group of between 31 and 50 years and satisfactory representation of the main ethnical groups, the survey led to several main indicative implications. Statistical descriptive analysis was conducted concerning the main perceptions on main local issues. The results of the conducted analysis are not conclusive, due to sample limitations mentioned above, but they are indicative of the general societal perception on local development goals and problems.
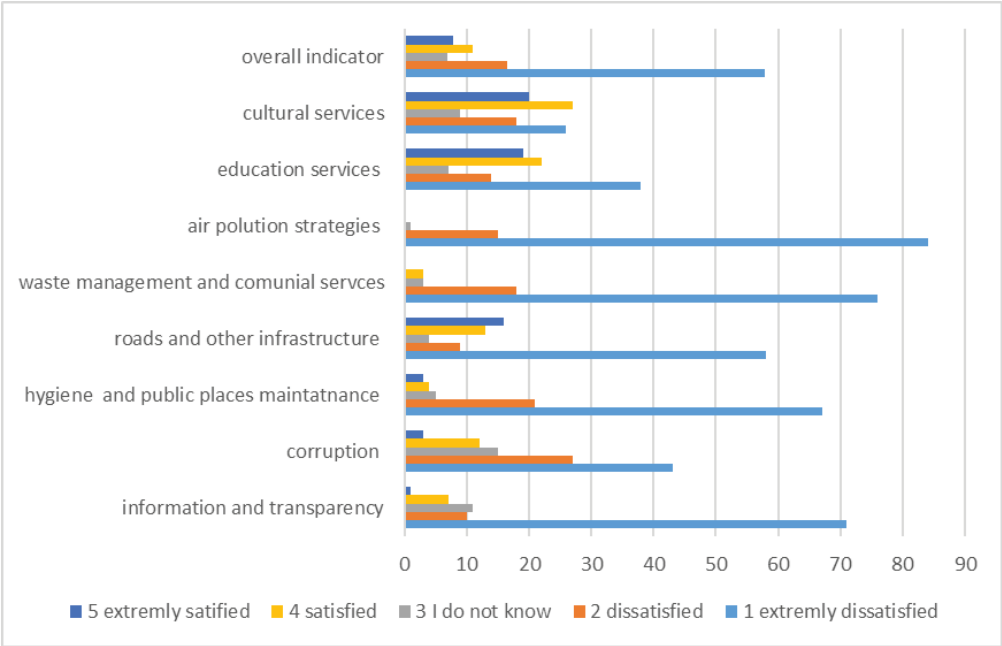

Figure 2 Overall and specific perceptions on various local services

On overall, most people (over 60%) in North Macedonia believe that local governments underperform in longer period. In accordance with literature, municipal underperformance further

has significant and long-lasting effects on local communities, including perceptions of residents and local economic growth: residents lose trust and confidence in their local government. This also leads to frustration, disillusionment, and a lack of civic engagement on a local level. This is especially relevant for the municipalities different than the core capital of Skopje. Poorly managed municipalities mainly deliver inadequate public services, such as hygiene and public space maintenance, air pollution solutions, and waste management. This was also confirmed in the data analysis, where around 70 % and above, of the respondents answered that they are discontented with the services provided. This situation negatively impacts residents' quality of life and overall satisfaction within their community. In addition, respondents believe that the educational, cultural and social sectors are poorly managed and impact the overall health and education levels of the local population. This can have long-term effects on the community's well-being and future prospects.

Furthermore, respondents are dissatisfied with the underperforming in realization and maintenance of the essential infrastructure projects, such as roads, utilities, and public spaces and transportation. This hinders significantly the growth and development of the area. It should be mentioned that the various municipalities were differently represented in the survey, which makes disaggregated analysis invalid. Hence, only aggregated results are discussed.

In general, municipalities that struggle with underperformance, according to the perceptions of the citizens, further hinder the economic growth, as they might have difficulties in attracting and retaining businesses. A poorly maintained infrastructure, inconsistent regulatory practices, and a lack of essential services, even if it is only in the perceptions of people, discourage business investment and growth, limiting job opportunities for local residents. Businesses may be less likely to expand or set up operations in areas with unreliable public services and infrastructure. In addition, residents who are dissatisfied with their local municipality's performance may choose to leave in search of better opportunities and quality of life elsewhere. The immigration leads to population decline and a "brain drain" of talents and a shortage of skilled workers. This is ongoing situation in many municipalities in North Macedonia, especially on the periphery.

To address these challenges, municipalities need to focus on effective governance, transparency, and accountability. High seventy percents of respondents believe that they are not well informed and included in decision making, reporting huge level of distrust. Hence, engaging with residents, soliciting feedback, and actively working to improve public services and infrastructure can help rebuild trust, stimulate economic growth, and enhance the overall well-being of the community. Collaboration between local governments, businesses, and community organizations is often key to revitalizing underperforming municipalities.

CONCLUSION

Given that LED concept and measuring the perceptions related to it is relatively new issue in North Macedonia, both in terms of academic analysis and recognition and treatment in real-life and legal context, this study aimed to provide an initial assessment for the case of North Macedonia, especially with respect to main local issues people perceive as problems – level of information, perception on corruption, waste management, hygiene, roads, infrastructure and capital projects, air quality and educational and social care services.

Howell and Perry (2004) note that there are many areas in which city residents can reasonably evaluate local performance. Van Ryzin, G. (2007) in his research provided a conceptual framework for analyzing the connections between trust, citizen satisfaction, and government performance. His findings demonstrated that while some perceptions are driven by exogenous factors, they are usually accurate. In addition, Holbrook et al, (2020, p. 467) argue that local political representatives should be accountable for the conditions in front of the local communities. Local bodies and their

representatives, mayors and Councils should be accountable for all aspects of services, such as taxes, public transportation, public spaces, schools, and culture. People perceptions effectively can reward and penalize them at the local elections.

In general literature suggests several lines of action for improving residents' perceptions of local government, suggesting that it is long term process that requires commitment, transparency, and responsiveness. With a relatively short view of four-year period (from one election to another), and a general high level of corruption in North Macedonia, which translates on a local level, this task for local bodies seems very difficult. Improving residents' perceptions of local government bodies should start firstly with returning lost trust and enhancing communication. Firstly, developing an open governance concept that will foster transparency in decision-making processes, budgets, and policies is essential starting step. All the documents, meetings, and data shall be published timely and accessible online. Secondly, the control and accountability measures shall be implemented and as well as mechanisms to hold government officials and employees accountable, but also responsible for their actions and decisions. Unaccountability in the legal framework and in the practice is still very much present threatening to become "normal" situation in North Macedonia. Community engagement, but real and critical is necessary too. For now, communities, especially marginalized groups have little power, as representatives are not always elected in regular and legitimate manner. The communication between residents and local bodies is not always clear, and the feedback is not always possible. It should be mentioned that most municipalities lack proper statistical data offices and the local policies are mostly made on a trial-and-error principle, without collecting necessary data to inform decision making. Mostly municipalities are not service oriented and people reported of negative interaction with local bodies in the survey. Quality of public service including waste management, public transportation, culture and education, and good public spaces maintenance and new infrastructure, such as roads, parks, and public buildings is decisive in improving people perceptions on LED indicators. Finally, strategic long-term planning that reflect the community's vision and goals, longer than the election period of four years in which most local officials think can ensure consistent progress toward better perceptions.

Some study limitations should be noted at this instance. The self-assessment surveys are prone to self-reporting bias, when the respondents are prone to respond following the expectations of the questionnaire. In addition, many aspects of local governance involve complex and interconnected systems with central government. For example, evaluating the performance of a municipality public education system requires considering factors like teacher quality, curriculum, funding, and other socioeconomic factors that are given or predetermined by the central government. These interdependencies are even greater in North Macedonia and other Balkan countries as the process of decentralization is still ongoing, making it difficult for residents to isolate and evaluate individual components.

The accuracy and reliability of data is another big problem for North Macedonia. Incomplete data, outdated, nonreliable or non-accessible data, creates untrusty environment. Indeed, while people often have a difficult time staying informed about national politics, they may have even more problems at the local level (Bernhard & Freeder, 2018). Without access to relevant data and metrics, it can be difficult for residents to make informed judgments about the effectiveness of these services. This accompanied by low accountability leads to a sense of helplessness among people and a reduced incentive to evaluate performance.

Finally, local politics in North Macedonia is highly dependent and polarized by political life, hence, residents receive information through biased or filtered sources, that is political parties, that present a skewed view of local performance, which can make it difficult for them to form objective assessments. Achen and Bartels (2016) have argued that voters are quite irrational and generally do not make well-informed retrospective assessments about political and economic conditions. Instead, according to them, most people make political evaluations on the basis of political and social identities rather than a sincere assessment of reality.

Overall, the complexity of local governance, the availability of information, and the various challenges mentioned above can make it difficult for local residents to reasonably evaluate local performance in many areas. However, efforts to improve transparency, access to information, and civic engagement can help address some of these challenges and empower residents to have a more informed voice in local governance.

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FISCAL POLICY AND COMPETITIVENESS OF THE MANUFACTURING INDUSTRY OF BOSNIA AND HERZEGOVINA

ABSTRACT

One of the key tasks of the country's economic or fiscal policy is to encourage the competitiveness of the economy. Each country shapes its fiscal policy in accordance with the goals it wants to achieve. Ways of the actions of the fiscal policy are different depending on the period of observation, the circumstances in which are taking place and the specifics of the country in which it is carried out. Many countries use fiscal policy to stimulate their economy and influence its competitiveness. The task of fiscal policy is to help create a quality business environment, that is, to stimulate competitiveness factors as a prerequisite for increasing competitiveness and successful business. Many factors can affect the competitiveness of the industry, including fiscal policy. It is very important to understand and determine the ways fiscal policy affects the competitiveness of the industry. With an adequate fiscal policy, it is possible to encourage the competitiveness of industries. The aim of this paper is to determine and describe the impact of fiscal policy elements on the competitiveness factors of the manufacturing industry in Bosnia and Herzegovina (B&H) in the period 2006-2018, using panel regression models. The results of the research should represent a starting point for the creators of fiscal policies when considering the need for changes in the elements of fiscal policy and their possible effects on the competitiveness of the manufacturing industry of B&H.

Keywords: Fiscal policy, competitiveness, competitiveness factors, manufacturing industry

JEL: E62, L60, L52

INTRODUCTION

One of the key tasks of the country's economic policy is to encourage the competitiveness of the economy. Each country shapes its fiscal policy in accordance with the goals it wants to achieve. The mode of action of fiscal policy are different depending on the period of observation, the circumstances in which they take place and the specifics of the country where it is implemented. Many countries use fiscal policy to stimulate their economy and influence its competitiveness. Economic policy makers make decisions on changes in fiscal policy in order to stimulate the development of certain industries, industrial areas, regions and the like. There are significant differences in the design of fiscal policy and its impact on the competitiveness of the economy between countries. The differences are conditioned by the specifics of each country (type and structure of the tax system), level of development, capacities of individual industries. This means that there is no universal solution, universally applicable fiscal policy, it is shaped in accordance with the needs of each individual country and its economy. Although there are studies about impact of fiscal policy on economic activities, the competitiveness of the country, the results are not universally applicable because countries differ from each other in terms of the macroeconomic environment, the structure of the economy, the basis for building competitiveness, tax structures and types of taxes.

The manufacturing industry is one of the most important areas of the B&H economy. It is the largest exporter, the carrier of the country's economic activity and generally the most competitive sector. Its development and growth is conditioned, among other things, by the possibility of placing products on international markets. In order to achieve this, companies must offer products that are competitive in relation to competing products in the markets where they operate. Many factors influence the competitiveness of the manufacturing industry. The task of fiscal policy is to help create a quality business environment as a prerequisite for increasing competitiveness and successful business. The competitiveness of the industry is determined by the competitiveness of its companies. We define the competitiveness of the industry as its ability to offer a product that will be more competitive than the products offered by the competition. This means that industry or its companies must offer a product that will have a higher value added for the customer than the competition at a price that is the same or lower than the competition. This ability can be observed and evaluated from several perspectives, such as: value of investments, exports, innovation, profitability, liquidity, number of employees. Industries that have a built-in competitive advantage grow faster, generate higher revenues, adequately manage costs and create a base for investments and innovations that will enable them to survive and further expand in competitive markets. It is a constant search for excellence, and the role of the state is to support these processes with an adequate fiscal policy.

The aim of the paper is to determine and describe the impact of fiscal policy elements on the factors of competitiveness of the manufacturing industry in Bosnia and Herzegovina (B&H) in the period 2006-2018. The central research question is: Do the elements of fiscal policy have an impact on the factors of competitiveness of the manufacturing industry in Bosnia and Herzegovina? In order to get an answer to the central research question, the following hypothesis was tested using the panel regression method: The competitiveness of the manufacturing industry, measured by competitiveness factors, is conditioned by a stimulating fiscal policy.

In the first part of the paper, the concept of competitiveness and the factors of competitiveness of the country and industry are defined, and an overview of the literature is given. The second part describes the research methodology, sample, variables, and sets up and tests the model. In the third part, the results of the research on the impact of fiscal policy on the factors of competitiveness of the manufacturing industry of B&H are analyzed.

1. THEORETICAL FRAMEWORK AND LITERATURE REVIEW

1.1. Review of previous research

When it comes to research on fiscal policy and its impact on the competitiveness of the manufacturing industry in B&H it can be concluded that this topic is still insufficiently researched. Research has been done mainly on the potential effects of taxes on public revenues and effective tax burdens. Thus, in the study, which was carried out as part of the TAMP project in B&H, the potential impact of the proposed profit tax on public revenues in FB&H is predicted. Within the framework of the same project, a study was also conducted on the potential impact of the proposed income tax on public revenues in FB&H. In his research, Čaršimamović (2006) determines the effective tax burden of corporate income tax in the FB&H compared to other countries and concludes that the corporate income tax system in the FB&H shows a bias towards financing through borrowing. Financing through borrowing in FB&H is distinguished by the highest negative effective rate, while financing through retained earnings/new equity capital is in the middle of the range of observations for OECD countries. Corporate income tax system in FB&H, is ranked high in the effective tax burden.

Đonlagić and Kešetović (2006) propose the harmonization of the legal framework for tax regulationprofit, that is, the introduction of a profit tax at the state level, which would enable the increase in competitiveness, clarity and neutrality of the tax system, as well as increase the efficiency of tax collection. Lazović-Pita and Štambuk (2015) in research on the professional attitudes and opinions of tax experts on tax policy in Bosnia and Herzegovina come to the results according to which the respondents agree with the introduction of progressive income taxation, retention of personal and family deductions, the existing rate of value added tax and profit tax.

A significantly larger number of studies were conducted in the Republic of Croatia. Conducted research can be classified into the following areas: Effects of fiscal policy on economic growth or economic activity, influence of the structure of public expenditures and income, Coordination of monetary and fiscal policy, Sustainability of fiscal policy and public debt, Political economy and fiscal policy.

Benazić (2006) investigates the possibilities of stimulating economic growth in Croatia using fiscal policy. He concludes that better business results would lead to an increase in collected budget revenues with an unchanged level of the tax burden. Šimović (2009) investigates the interdependence of taxation and economic growth in Croatia. Using regression analysis, he concludes that there is a statistically significant impact of taxation on economic growth in Croatia. He also concludes that numerous studies on the relationship between taxation and economic growth do not offer unambiguous conclusions because it is a complex problem. Tkalec and Vizek (2011) use multiple regression to examine the impact of macroeconomic policies on the manufacturing industry in Croatia. They conclude that fiscal policy is particularly important for the manufacturing industry, both because of the size of the fiscal elasticities and because of the short time lags of action. Škuflić, Kovačević and Sentigar (2011) examine the role of fiscal policy in strengthening competitiveness of Croatian economy. They focus on the issue of assessing the effectiveness of state subsidies as a measure of fiscal policy in stimulating economic activity in the Republic of Croatia. Using multiple linear regression and the panel method, they tries to evaluate the effectiveness of state subsidies in the Republic of Croatia and their importance in strengthening competitiveness. Based on the conducted research, they conclude that state subsidies in the Republic of Croatia are inefficient, are a very generous item of the state budget and do not represent a significant measure for stimulating economic activity, and in line with this they can not contribute to competitiveness. The Republic of Croatia needs reforms that take time to bring about the results for which they were introduced, as well as greater responsibility on the part of fiscal policy bearers. Škuflić, Mlinarić, Družić (2016) investigate the key factors for positive business operations in the mnufacturing industry of the Republic of Croatia in the period before and after the economic crisis. Using a statistical panel analysis, they conclude that indebtedness, liquidity and the growth rate of employee costs have a negative effect, while concentration, company size and sales growth rate have a positive effect on the profitability of companies in the manufacturing industry. Blažić, Štambuk, Šimović, Lazović-Pita and Klun (2017) compare the results of tax surveys conducted on a sample of tax experts in three former socialist republics: Croatia, Slovenia and Bosnia and Herzegovina (Federation of Bosnia and Herzegovina) and conclude that, despite the differences between the countries themselves and their tax systems, the views and opinions of experts are mostly similar. Tax experts mainly support taxation of assets, dividends and capital gains, reliefs for determining the income tax base, preferential treatment of small and medium-sized enterprises and reinvestment of profits, as well as taxation of financial activities. Tax experts are mainly opposed to a single rate of income and profit tax, lower taxation of capital income compared to labor income and a single rate of value added tax.

In the works of different authors, we find different attitudes when it comes to the way of acting fiscal policy and its measures on industry. What can be concluded is that there is no universally valid rule, the effects of fiscal policy depend on a whole series of factors. However, the impact of

fiscal policy on economic activity was confirmed in all papers. Fiscal policy is prone to change because its goals and subject change, only during these changes it is necessary to take into account their effects on the economy. The competitiveness of the industry was also considered from several aspects, but the key emphasis is on the competitiveness factors that need to be built in order to achieve and maintain the competitiveness of the industry.

2. FISCAL POLICY AND COMPETITIVENESS

The term competitiveness does not have a single definition. Competitiveness can be observed at the level of the state, sector, and company. It is a very complex concept, the OECD[9] defines competitiveness as a measure of a country's ability or inability to sell its products on the international market.[10] From previous definition, it can be clearly concluded that the competitiveness of the national economy is conditioned by the competitiveness of its economy, i.e. companies, especially those that export their products to international markets. On the other hand, the competitiveness of the company is determined by the ability to produce a product that will be more competitive than the one offered by the competition. In order for companies to be successful in this, in addition to the internal resources they need to have at their disposal, it is necessary to have a stable and stimulating business environment. This means that the competitiveness of the country's economy directly depends on the competitiveness of its companies and vice versa. In the paper, we will define the competitiveness of a company or industry as its ability to offer a product that will be more competitive than the products offered by the competition. There are many different ways of measuring competitiveness depending on the subject, goal and purpose of the research. Competitiveness factors are one of the ways to measure competitiveness at the company or industry level.

The country's fiscal policy is realized through state spending and tax policy. With fiscal policy, it is possible to influence the structure of the economy, in such a way as to encourage the development of certain industries, to attract investments in certain industries with tax incentives. The aim of the work is to examine whether fiscal policy measures, as a macroeconomic aspect of competitiveness, are adequately implemented at the microeconomic level and whether they contribute to building microeconomic competitiveness. Industry taxation is a significant part of the tax system that directly affects current and future business decisions. Taxation affects labor and capital costs and production and employment decisions, both current and future. The importance of an optimally designed taxation system aimed at encouraging growth and investment is particularly emphasized in conditions of international capital mobility when companies are looking for lower tax costs and production costs in order to ensure competitiveness.

3. METHODOLOGY

3.1. Research sample

The research sample is the manufacturing industry of B&H. The manufacturing industry processing materials and substances of plant and animal origin into finished products. It is the basis of the development of every country, especially developing countries, because it enables the substitution of imports and the expansion of exports. According to the classification of activities of B&H in 2010[11], there are 23 areas in its composition.

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[9] Organisation for economic cooperation and development
[10] https://stats.oecd.org/glossary/detail.asp?ID=399(Accessed: 25 November 2022)

[11] http://dissemination.bhas.ba/classifications/kd/KDBIH_2010_Metodologija_h.pdf, (Accessed: 3 May 2021)

3.2. Methodology and data

In order to determine the impact of elements of fiscal policy on the competitiveness of the manufacturing industry of B&H, that is, which elements have an impact on the competitiveness of the manufacturing industry of B&H, co-regression panel models were used. Secondary data collected from the database of: Agency for Statistics of B&H, Financial and IT Agency of FB&H, Agency for Mediation, IT and Financial Services of RS, Agency for Statistics of B&H, Indirect Taxation authority of B&H, Central Bank of B&H, Ministry of Development entrepreneurship and crafts of the FB&H, Ministry of Economy and Entrepreneurship of the Republic of Srpska. The sample is the manufacturing industry in the period 2006-2018. Given that the sample is the manufacturing industry, which has 23 areas and the observation period is 13 years, we have 299 observations, which indicates the use of regression panel models. Considering the limitations in the availability of data, the analysis of competitiveness factors of the manufacturing industry of B&H was done for the period 2006-2018. The year 2006 was set as the beginning of the observation period, because that is the year of the introduction of the value added tax.

3.3. Model

In order to determine the influence of fiscal policy elements on the competitiveness of the B&H manufacturing industry, measured by competitiveness factors, regression panel models were used. The following panel data models will be tested:

$INV_{it} = \alpha + \beta_{it} (PDP_{it} + PDL_{it} + PDV_{it} + SB_{it}) + \varepsilon_{it}$ (Model 1)

$DSINV_{it} = \alpha + \beta_{it} (PDP_{it} + PDL_{it} + PDV_{it} + SB_{it}) + \varepsilon_{it}$ (Model 2)

$INOV_{it} = \alpha + \beta_{it} (PDP_{it} + PDL_{it} + PDV_{it} + SB_{it}) + \varepsilon_{it}$ (Model 3)

$PROD_{it} = \alpha + \beta_{it} (PDP_{it} + PDL_{it} + PDV_{it} + SB_{it}) + \varepsilon_{it}$ (Model 4)

$PROFI(DVFT)_{it} = \alpha + \beta_{it} (PDP_{it} + PDL_{it} + PDV_{it} + SB_{it}) + \varepsilon_{it}$ (Model 5)

$PROFI(ND)_{it} = \alpha + \beta_{it} (PDP_{it} + PDL_{it} + PDV_{it} + SB_{it}) + \varepsilon_{it}$ (Model 6)

All models have the same independent variables and a different dependent variable (competitiveness factor) because the influence of independent variables of fiscal policy on the competitiveness factors of the manufacturing industry in the observed period is examined with the set data panel models as dependent variables. In Model 1, the dependent variable INV_{it} represents the realized investments of the manufacturing industry in fixed assets in the observed period. In Model 2, the dependent variable $DSINV_{it}$ represents direct foreign investments in the manufacturing industry in the observed period. In Model 3, the dependent variable $INOV_{it}$ represents the level of realized innovations in the manufacturing industry. In Model 4, the dependent variable $PROD_{it}$ represents the productivity of the manufacturing industry in the observed period, in Model 5 the dependent variable $PROFI_{it}$ represents the profitability of the manufacturing industry in the observed period, measured by added value at factor costs, and in Model 6 the dependent variable $PROFI_{it}$ represents the profitability of the manufacturing industry in the observed period, measured net profit and the independent variables in the mentioned models are: PDP_{it} - paid profit tax, PDL_{it} - paid income tax, PDV_{it} - paid/returned value added tax, SB_{it} - subsidies to the manufacturing industry in the observed period.

The evaluation of the influence of independent variables on the dependent variable was performed using standard models in panel regressions: Ordinary Least Squares (OLS) Model, Fixed Effects Model (FE) and Stochastic Effects Model (RE)[12]. In order to choose the most adequate model (fixed effects model, ordinary least squares model and stochastic effects model), tests for choosing between models were performed. Thus, the choice between fixed and stochastic effects models was made using the Hausman test. A rejection of Husman's test means that the basic assumptions of the stochastic effects model are incorrect, therefore a fixed effects model is used.[13] The choice between

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[12]Fixed effects model (The fixed effects approach-FE), Ordinary least square model (OLS), Stochastic effects model (The random effects approach-RE)

[13] Wooldridge (2013), Introductory Econometrics: A Modern Approach, 5th edition, pp.496

the OLS model and the stochastic effects model was made using the Breusch-Pagan test. The choice between the fixed effects model and the OLS model was made using the F test.

The following hypothesis was tested: ***The competitiveness of the manufacturing industry, measured by competitiveness factors, is conditioned by a stimulating fiscal policy.***
By testing and analyzing the set panel regression models, the set hypothesis will be tested. Model testing was performed using STATA 13 statistical software.

RESULTS AND DISCUSSION

Based on the results of the Hausman test in Model 1, it is better to apply a model with fixed effects compared to a model with stochastic effects. The Breusch-Pagan test shows that it is better to apply the stochastic effects model than the ordinary least squares model. The value of the F test shows that it is better to apply the fixed effects model compared to the ordinary least squares model. From the mentioned test results, it can be concluded that in Model 1 it is best to apply the fixed effects model. Based on the results of the Hausman test in Model 2, it is better to apply the model with stochastic effects compared to the model with fixed effects. The Breusch-Pagan test shows that it is better to apply the stochastic effects model than the ordinary least squares model. The value of the F test shows that it is better to apply the fixed effects model compared to the ordinary least squares model. From the mentioned test results, it can be concluded that in Model 2 it is best to apply the stochastic effects model. Based on the results of the Hausman test in Model 3, it is better to apply the model with stochastic effects compared to the model with fixed effects. The Breusch-Pagan test shows that it is better to apply the stochastic effects model than the ordinary least squares model. The value of the F test shows that it is better to apply the fixed effects model compared to the ordinary least squares model. From the above test results, it can be concluded that in Model 3 it is best to apply the stochastic effects model. Based on the results of the Hausman test in Models 4, 5, 6, it is better to apply a model with fixed effects compared to a model with stochastic effects. The Breusch-Pagan test shows that it is better to apply the stochastic effects model than the ordinary least squares model. The value of the F test shows that it is better to apply the fixed effects model than the ordinary least squares model. From the mentioned test results, it can be concluded that in Models 4, 5, 6 it is best to apply the fixed effects model.

Using the F test and the coefficient of determination R^2, the stability and accuracy of the regression model is checked. The results of the F test and the coefficient of determination R^2 for models 1-6 are given in Table 1.

Table 1-Panel model results

Model 1			Model 2		
R^2	0.4478		R^2	0.237	
F test	$F(23,188)=25.25$	Prob>F=0.000	F test	Wald chi^2(4)=16.72	Prob>chi^2=0.002
Model 3			Model 4		
R^2	0.2657		R^2	0.111	
F test	Wald chi^2(4)=6.38	Prob>chi^2=0.172	F test	$F(23,188)=24.89$	Prob>F=0.000
Model 5			Model 6		
R^2	0.145		R^2	0.2131	
F test	$F(23,188)=27.90$	Prob>F=0.000	F test	$F(23,188)=4.97$	Prob>F=0.000

Source: Author

Based on the regression model selection tests (Hausman test, Breusch-Pagan test, F test), the appropriate model (FE, OLS, RE) was selected and then their validity and stability were checked (F test and R^2). Below is a presentation, based on the conducted tests, of the selected optimal valid

models and the evaluation of the regression coefficients along with the independent variables in these models.

Table 2-Evaluation of regression coefficients in Model 1 (Fixed effects model)

INV	Coef.	Std.Err.	t	P>ItI	95% Conf.Interval	
PDP	3.651	0.466	7.83	0.000	2.731	4.572
PDL	-2.008	0.920	-2.18	0.003	-3.825	-0.192
PDV	-3.645	0.163	-2.23	0.027	-0.687	-0.413
SB	-4.954	2.201	-2.25	0.026	-9.297	-0.611

Source: Author

Table 3-Evaluation of regression coefficients in Model 2 (stochastic effects model)

DSINV	Coef.	Std.Err.	t	P>ItI	95% Conf.Interval	
PDP	4.517	2.139	2.11	0.035	0.323	8.711
PDL	-0.743	4.213	-0.18	0.860	-9.002	7.515
PDV	-1.913	0.661	-2.89	0.004	-3.2008	-0.617
SB	-10.690	40843.5	3.55	0.000	64915.65	225019.2

Source: Author

Table 4-Evaluation of regression coefficients in Model 4 (fixed effects model)

DVPZ	Coef.	Std.Err.	t	P>ItI	95% Conf.Interval	
PDP	0.0009	0.000	2.60	0.01	0.000	0.001
PDL	0.000	0.000	0.13	0.895	-0.001	0.001
PDV	0.0006	0.000	5.01	0.000	0.000	0.000
SB	-0.001	0.001	-1.05	0.297	-0.005	0.001

Source: Author

Table 5-Evaluation of regression coefficients in Model 5 (fixed effects model)

DVFT	Coef.	Std.Err.	t	P>ItI	95% Conf.Interval	
PDP	14.071	1.559	9.03	0.000	0.759	8.529
PDL	-4.657	3.076	-1.51	0.132	-9.588	7.095
PDV	1.855	0.547	3.39	0.001	-3.781	-0.814
SB	-32.223	7.355	-4.38	0.000	-29.881	10

Source: Author

Table 6-Evaluation of regression coefficients in Model 6 (fixed effects model)

ND	Coef.	Std.Err.	t	P>ItI	95% Conf.Interval	
PDP	6.454	0.898	7.19	0.000	4.682	8.226
PDL	-2.335	1.772	-1.32	0.189	-5.832	1.160
PDV	0.578	0.315	1.82	0.0068	-0.044	1.200
SB	-8.428	4.237	- .199	0.0048	-16.787	-0.691

Source: Author

In Model 1, variations in the dependent variable Investments (INV) are the result of the influence of independent variables, and 44.78% of the variations in investments are explained by the variables included in the model, taxes and subsidies. Corporate income tax has a positive and independent variables Income Tax, Value Added Tax and Subsidies have a negative impact on the dependent variable Investments of the manufacturing industry of B&H. Income tax had a negative impact on the investments of the manufacturing industry in the observed period. One of the reasons for such a result is that increased investments require an increase in the number of employees and thus the tax burden on labor increases. Similar results can be found in the following studies: Eichler, Grass, Blochliger and Ott (2006), Šeparović (2009), Romero-Avila, Strauch (2008), Ding (2008), Bonucchi, Ferrari, Tomasini and Tsenova (2015). value had a negative impact on Investments of the manufacturing industry in the observed period. This result should be viewed primarily from the

aspect of the impact of the value added tax on the liquidity of the company during the investment cycle. When investing in companies, they import fixed assets, parts and pay value added tax, for which they have the right to a refund at the end of the month in which the payment was made, and the refund period is up to six months. The time difference between the moment of payment of value added tax and the moment of realization of the right to a refund of the same company is usually paid through the time value of money, i.e. the interest they pay on the funds they borrow in order to ensure liquidity.

In Model 2, variations in the dependent variable Direct Foreign Investments (DSIN) are the result of the influence of independent variables, and 23.7% of the variations in direct foreign investments are explained by the variables included in the model, taxes and subsidies. Corporate profit tax has a positive and value added tax has a negative impact on direct foreign investments in the manufacturing industry of B&H. The value added tax had a negative impact on Foreign Direct Investments in the manufacturing industry in a similar way to Investments in the manufacturing industry. When making investment decisions, investors also consider the impact of value added tax on investments. Jacob, Michaely and Muller (2016 and 2018) came to similar results in their research. Income tax did not have a significant impact on direct foreign investments, which is in line with theoretical assumptions, given that when making investment decisions, investors primarily consider availability and the qualification of the workforce, the possibility of making a profit, and a less significant role is played by the tax burden on labor in the form of income tax. We find similar conclusions in the work of Egger and Radulescu (2008). Income tax primarily affects the employees themselves when making decisions about the choice between employment and free time. (Veldhuis and Clemens (2006), Arnold et al. (2011), Attinasi et al. (2016)).

In Model 3, the variations in dependent Innovation (INOV) are not the result of the influence of independent variables, according to the results of the F test and the coefficient of determination R^2, the model is neither stable nor valid. One of the reasons for rejecting Model 3 lies in the fact that innovations in the manufacturing industry are at a very low level. It is mainly about licenses, as the right to use, and without significant investments there is no development of own innovations.

In Model 4, variations in the dependent variable Added value per employee (DVPZ) are the result of the influence of independent variables, and 11.1% of the variations in the dependent variable are explained by the variables included in the model, taxes and subsidies. The independent variables Corporate Profit Tax and Value Added Tax have a positive impact on the dependent variable Productivity of the B&H manufacturing industry, measured by value added per employee. Income tax also did not have a significant impact on the productivity of the manufacturing industry in B&H. Productivity in work is measured by added value per employed person. Income tax has a small share in the added value per employee, so it is possible that this is the reason why no significant impact of income tax on the productivity of the manufacturing industry was recorded in the observed period. This is contrary to the research results of Fest (2015), we find similar conclusions in the work of Hungerford (2012).

In Model 5, variations in the dependent variable Value Added at Factor Costs (DVFT) are the result of the influence of independent variables, and 14.5% of the variations in the dependent variable are explained by the variables included in the model, taxes and subsidies. The independent variables Corporate Profit Tax and Value Added Tax have a positive impact on the dependent variable Profitability of the B&H manufacturing industry measured by Value Added at factor costs. This positive impact can be explained by the increased volume of business activities. The increased volume of business activities has a positive impact on productivity, business operations repeated several times are performed each time with a lower consumption of resources. An increase in productivity leads to a decrease in operating costs, which results in an increase in profitability.

In Model 6, variations in the dependent variable (ND) are the result of the influence of independent variables, and 21.31% of the variations in the dependent variable are explained by the variables included in the model, taxes and subsidies. The independent variable Corporate income tax has a positive impact on the dependent variable Profitability of the manufacturing industry of B&H measured by the Net profit of the company. Profitability is measured by added value by factor costs

and net profit, and it is possible that is the reason that no significant impact of income tax on the profitability of the manufacturing industry was recorded in the observed period is the fact that the tax burden of income tax is small in the mentioned indicators of profitability, similar results noted by Lutz and Turrini (2000).

According to the results of the set models, corporate income tax has a positive and subsidies have a negative impact on the competitiveness of the manufacturing industry of B&H as measured by competitiveness factors. The results confirm the set hypothesis on the importance of a stimulating fiscal policy and its impact on the competitiveness of the manufacturing industry of B&H. The theoretical assumptions and author's expectations were the opposite of the obtained research results. Theoretical assumptions, as well as the results of individual research, are based on the assumption of a positive impact of subsidies on industry competitiveness (Czarnitzk and Toole (2006), Dumont (2013), David, Hall and Toole (2000), Hall and Van Reenen (2000), Wu (2005)), Zhu, Z., Zhu, Z., Xu, P., Xue, D., (2019), Dou, Z., B Wu, B., Sun, Y., Wang, T., (2021), Ambaw and Thangavelu (2021)), but apparently this was not the case in this study. The reasons for such results should be sought in the fact that subsidies to the manufacturing industry were at a very low level or were not awarded at all. Administrative procedures and conditions for obtaining them are also complicated, so companies rarely decide to use them. We find similar results and their causes in the researches: Delević (2020), Nemethova, Siranova, Sipikal (2019), Škuflić, Kovačević and Sentigar (2011), Balcerowicz and Sobolewski (2005). Buneta (2021) concludes that subsidies had a positive impact on the profitability of public companies, but compared to other companies that did not receive subsidies, they did not achieve significant results. These results lead to the conclusion that reform of this area is necessary. It is necessary to determine the justification of these benefits, establish clear criteria for access and facilitate their availability.

On the other hand, the tax incentives of the corporateincome tax are significant for building the competitiveness of the manufacturing industry of B&H. Similar results were obtained by: Yawei, Wenxiang, Neal(2020), Abdioglu, Biniş, Arslan (2016), Van Parys (2012), Van Parys and Sebastian (2010), Harrison and Clare (2009), Balcerowicz and Sobolewski (2005). In addition to the low statutory rate of company income tax, it is necessary to maintain and develop a system of tax incentives, especially incentives for competitiveness factors: investments, foreign direct investments and innovations. It is necessary to emphasize incentives for innovation, given that they are currently at a very low level, which in the long run can have significant negative consequences on the competitiveness of the manufacturing industry.

By confirming the hypothesis of the work, it can be concluded that certain elements of the fiscal policy had an impact on the competitiveness factors of the manufacturing industry of B&H during the observed period of 2006-2018. In all considered models (1-6), the positive impact of corporate profit tax on the competitiveness factors of the maunfacturing industry of B&H was confirmed, which is in accordance with the results (Djankov et al. (2010), Ljungqvist and Smolyansky (2016), Appelt, S. et al. (2016), Ohrn (2018), Olatunji and Oluwatoyin (2019), Kusrina and Fatimah (2021), Adefunke and Usiomon (2022)). The level of the tax burden and tax incentives, in the observed period, were stimulating factors for the competitiveness of the manufacturing industry of B&H.

CONCLUSION

There is a lot of empirical research in the literature that deals with fiscal policy, tax policy and competitiveness, but research and review of the literature can conclude that there is not much research that considers fiscal policy and competitiveness at the same time, especially competitiveness at the meso level, industry level. What is significant is that a large number of studies have different results and conflicting conclusions. The reason for this is the fact that each of these variables realizes different interactions and effects depending on the conditions in which it takes place. The results of the conducted research confirmed the hypothesis about the importance of a stimulating fiscal policy for building the competitiveness of the manufacturing industry of B&H

as an important prerequisite for its further growth and development. These results represent a starting point for fiscal policy makers when considering the need for changes in the elements of fiscal policy and their possible effects on the competitiveness of the B&H manufacturing industry, measured by competitiveness factors.

The aim of this paper was to determine how the elements of fiscal policy influence the factors of competitiveness of the manufacturing industry of B&H, in order to make appropriate recommendations for the design of adequate fiscal policies based on the obtained results. Based on the conducted statistical analysis, it is concluded that the corporate income tax had a positive impact on the competitiveness factors of the manufacturing industry of B&H, while co-subsidies had a negative impact on the competitiveness factors of the manufacturing industry of B&H in the observed period. Income tax had a negative impact on Investments of the manufacturing industry, and Value Added Tax had a negative impact on Investments of the manufacturing industry and Direct foregin investments in the manufacturing industry in the observed period.

One of the future directions of research is to extricate the most important fileds of the manufacturing industry and to measure the impact elements of fiscal policy on it as well as to include selected countries that have a similar level of development of the manufacturing industry as well as B&H. Given that the production of base metals is a field of manufacturing industry with the highest average participation in the export of B&H, with the highest amount of returned value added tax from all other fileds of industry in the future research, special attention should be devoted to this field and the role of fiscal policy in its further growth and development. Results of this research are useful primarily to fiscal policy makers when considering the need for changes in fiscal policy with the aim of encouraging industry competitiveness. In addition to the creators of fiscal policies, the results can be used by institutions that educate personnel in the field of economic policy, fiscal policy and competitiveness.

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TRENDS, CHALLENGES AND BEST PRACTICES IN SOCIAL ENTERPRISES DEVELOPMENT – THE CASE OF REPUBLIC OF NORTH MACEDONIA

ABSTRACT

The events that happened during the political, social, and economic processes, followed by the financial crisis in the European Union and other countries highlighted the need in 2008 to think about new, diverse models of economic growth and development. In recent years, social entrepreneurship has been recognized as an innovative model of economic growth, although it is still not sufficiently known, inadequately supported and legally unregulated yet in many countries. The benefits from the progress of this type of entrepreneurship are numerous, especially analyzed and evaluated from a social and economic aspect. Social entrepreneurship is newly, rapidly evolving entrepreneurship that is developing within the Republic of North Macedonia and it is one of the most notable innovations in civil society in recent times.

The main objective of this paper is to identify trends and challenges faced in the development of social enterprises in North Macedonia using the Delphi method, and to provide the best practices/solutions and appropriate guidelines to foster innovation and creativity in social entrepreneurship for supporting social enterprises. Namely, the research study includes various stakeholders, crucial for the development of this type of entrepreneurship: existing social enterprises, potential social enterprises, conventional businesses, key individuals/players recognized for their positive contribution to this sphere, specialized institutions/organizations, and experts in the area.

The analyzes confirmed that the majority of social enterprises are community-based organizations, and offer solutions to benefit whole communities, with a small number of employees, nevertheless, there is little to no awareness among the population about this kind of enterprises as well as among the managers of traditional businesses.The study identified the key challenges, categorized into legal, economic and social, which in turn, should be worked on and taken into account in building future strategies for the development of social entrepreneurship.

Key words: social entrepreneurship, challenges, trends, strategies for social enterprises, North Macedonia

JEL: M21, O31, I31, D63

1. INTRODUCTION

Social entrepreneurship is an innovative activity which creates social value that can occur in or across the non-profit, business, and public sectors. Namely, social entrepreneurship transforms society, tackles social problems, and improves society. Although social entrepreneurship has various titles, it gained practical significance during the 1970s and 1980s, but it was not until the 1990s that the subject gained attention from governments and the academic community. The Italian government created the first social firm model by adopting a specific legal form for social cooperatives in 1991. The UK government in 2004 established the second legal form for social enterprise in Europe by introducing the Community Interest Company. From the turn of the century onwards, the flow of publications became more substantial. At the same time, some highly successful social entrepreneurs have attracted considerable media attention, among them: Muhammad Yunus, founder of the Grameen[14] microfinance bank and winner of the 2006 Nobel Peace Prize, and eBay's Jeffrey Scholl[15], who founded Skol Foundation for supporting social entrepreneurship. Both were included among Time magazine's 100 People of the Year in 2006 (Hoogendoorn, Pennings & Thurik, 2010, p.4). Social enterprises (SE) are very important for local development. A social enterprise is an operator in the social economy whose main objective is to have a social impact rather than make a profit for their owners or shareholders (European Commissions). Today, the European social economy provides more than 13.6 million paid jobs, employment of a workforce of over 19.1 million, including paid and non-paid, more than 82.8 million volunteers, equivalent to 5.5 million full time workers, more than 232 million members of cooperatives, mutuals and similar entities (European Economic and Social Committee, 2016, p.66).

Social entrepreneurs differ from traditional entrepreneurs in that their main desire is to make a difference in the world or in their communities. They often have personal experience with the causes they support, which inspires the mission of their business. While traditional businesses may measure success in terms of market share or year-over-year revenue growth, social entrepreneurs are more likely to focus on metrics such as jobs created, trees planted, or donations made to a charitable group that solves the problem they have. Numerous benefits derive from the functioning of social enterprises, which contribute to the employment of a vulnerable category of citizens - beneficiaries of social protection measures, which enables saving these social transfers, reducing the costs of further education and retraining. In addition to the social component, social enterprises also have an economic function. The economic criteria on which these enterprises will be based are significant for the rest of the enterprises and for the sustainability of the social enterprises themselves.

In the Republic of North Macedonia, there are significant beginnings of the development of social enterprises, but there are still unregulated conditions and several challenges for their functioning and development. It has been noted that many social entrepreneurs have been victims of social problems and have been resource constrained, often at almost every stage. Passion for social entrepreneurship is fueled by a sense of excitement, energy, and enthusiasm for solving social issues through meaningful activities that create social value. In this paper, an attempt has been made to identify the challenges faced by social entrepreneurs in the management and development of their enterprises through the example of social enterprises from Republic of North Macedonia. The paper is structured as follows: first section is related to literature review that include: evolution of social entrepreneurship, challenges faced by social enterprises - global and local perspectives, best practices in social enterprise development - insights from global and local contexts and empowerment as a mediating factor - insights from North Macedonia. Section two presents methodology i.e. material and methods used for preparing this paper, followed by trends, challenges and best practices of social entrepreneurship in Republic of North Macedonia in section three. The last section of the paper presents the conclusions and recommendations of the study.

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[14] Grameen Bank, https://grameenbank.org/
[15] Ebay, https://www.ebay.com/n/all-categories

2. LITERATURE REVIEW

Social enterprises, which combine entrepreneurial principles with social goals to address a wide range of urgent societal concerns, have emerged as a dynamic and revolutionary force in the global economic landscape. The review of the literature digs into the many-sided trends, difficulties, and best practices in the growth of social enterprises, with an emphasis on their applicability and dynamics in North Macedonia and beyond.

The idea of social entrepreneurship has changed greatly through time and has become more popular as a means of addressing difficult societal concerns. Social enterprises, according to Mair and Marti (2006), are a type of "hybrid" organization that straddles the line between conventional for-profit companies and nonprofit institutions. Social enterprises, as hybrid organizations, help to realize social and commercial purposes (Armstrong & Grobbelaar, 2023). The study attempts to capture the conceptual framework related to the possibilities available for social enterprises to create sustainable social and financial worth and innovation, despite the constraints that exist in the companies, since these missions are not always in alignment with one another. In addition to Western contexts, this evolution is also noticeable in places like North Macedonia, where the emergence of social enterprises reflects a global trend towards joining entrepreneurial spirit for social betterment, albeit within a specific regional context.

The Organization for Economic Co-operation and Development (OECD) defines social enterprises as "any private activity carried out in the public interest, organized with an entrepreneurial strategy, but whose main objective is not profit-maximization, but the achievement of certain economic and social goals, and which has the capacity to bring innovative solutions to the problems of social exclusion and unemployment". Social enterprises are very promising, but they also face a variety of difficulties as they grow and operate, some of which are made worse by regional conditions. Globally, there are still considerable barriers to financing and funding systems (Austin, Stevenson, & Wei-Skillern, 2006). This problem is made more difficult in North Macedonia by a lack of access to finance and a developing framework for assisting social entrepreneurs, necessitating the use of innovative techniques to obtain funding for their endeavors. Further challenges to expansion include managing the regulatory environment and raising awareness of social enterprise concepts in the area. Also, in North Macedonia, population concentration and socio-economic status, combined with a lack of environmental awareness, have raised alarms for many environmental issues that decrease the quality of the life for the country's residents.

Social entrepreneurship, as a relatively new idea, has immense potential to hasten this shift toward sustainable development. Chichevaliev and Ortakovski (2020) in their study attempt to answer the question "What can environmental organizations and social enterprises do to address environmental issues and contribute to the development of a contemporary "green" economy"? The research indicates that among other flaws, the absence of policy and legal implementation contributes to the weakening of green economy. Existing traditional institutions are not able to assist organizations in their efforts for sustainable development.

Despite these challenges, social enterprises in North Macedonia and similar regions have adopted innovative business models, such as community-based initiatives and collaborations with local NGOs, to create positive social impact. Kulshrestha et al (2022) propose the idea of "sustainable social enterprises," which maximize the advantages of cross-sectoral cooperation, active participation in creating solid social networks, and leveraging social capital to effectuate societal transformation. According to Dees (1998) drawing inspiration from global best practices, these local adaptations affect the resilience of social enterprises in North Macedonia. Collaborative partnerships with governments, nonprofits, and the private sector are instrumental in expanding the reach and effectiveness of social enterprises both locally and globally (Nicholls & Cho, 2006).

Social enterprises are becoming more well-known as socially creative businesses that strive to reconcile their economic and social goals, so an investment in human resources has become essential for social enterprises. Güler (2022) discusses the core human resources practices in social

entrepreneurship, including recruitment, career management, training, pay and performance management, among other management techniques, which gives a competitive edge and fosters trust between employees and the companies. In the context of North Macedonia, Fowler and Hope (2013) in their paper titled "Linking Social Entrepreneurship and Social Change: The Mediating Role of Empowerment" shed light on the role of empowerment as a mediating factor. The research investigates the impact of Macedonian social enterprises in empowering local communities, which leads to sustainable social change. Empowerment, in this context, acts as a catalyst for positive transformation, emphasizing the interconnectedness of social entrepreneurship and community development.

To conclude, the literature reviewed on social enterprise development, when considered within the global and regional context of North Macedonia, underscores the importance of this emerging field as a powerful means to address diverse societal problems. While challenges persist, local adaptations, innovative approaches, and insights from global literature offer pathways for social enterprises in North Macedonia and similar regions to thrive and create lasting social impact. The implementation of innovative methods varies depending on how social enterprises and other businesses are directed. Perceiving the various business models used by social businesses and the impact of innovative management techniques on the expansion of social enterprises, Magdicheva-Shopova (2019) seeks to understand the importance and effects of contemporary, innovative management for the development of social enterprises in North Macedonia.

3. METHODOLOGY

The main objective of this paper is to identify trends and challenges faced in the development of social enterprises in the Republic of North Macedonia and to provide the best practices/solutions and appropriate guidelines to foster innovation and creativity in social entrepreneurship for supporting social enterprises.

In order to achieve the aim of the paper, primary and secondary research was conducted. The secondary research is based on the most relevant research and papers, conference papers, open-access materials, study reports related to the research topic and other relevant publications. Primary research is based on:

- Delphi method made with the key stakeholders (current and potential social enterprises, specialized institutions/organizations, and experts from the field of social enterprises in the country

- Identification and analysis of the existing legal regulations, programs, etc. related to this field in North Macedonia.

An anonymous questionnaire with mostly closed-ended questions was sent to key stakeholders in the period of 10 August to 10 September 2022. The research included several stages, after the initial sending of electronic questionnaires of identified stakeholders for this study, in the next stage direct individual communication and interview with owners of social enterprises was done to identify the current situation, challenges, needs and future plans of the social enterprises.

For the purposes of this paper, a descriptive analysis was made, through processing, categorization, and summarization of the obtained results from the owners of social enterprises, from experts in this field, as well as other key activists in the same field.

4. TRENDS, CHALLENGES AND BEST PRACTICES OF SOCIAL ENTREPRENEURSHIP IN REPUBLIC OF NORTH MACEDONIA

Social entrepreneurship is a new entrepreneurship that is developing within the Republic of North Macedonia, and it is not yet legally regulated. The original predecessors of social enterprises in the Republic of North Macedonia have existed since 1900, when many voluntary associations, including cooperatives, societies, and other forms of functioning of autonomous associations are founded - consumer cooperative in rural environments in 1900 and fishing cooperative from 1914,

youth cooperatives in 1938 (Ilievski & Iloska, 2018, p.12). This entrepreneurship represents one of the most notable innovations in civil society in recent times in the Republic of North Macedonia. The significantly changed market, competition and new technologies are reasons that make individuals and companies look further into the future, all to see where they stand in the market.

Public knowledge about the concept of social enterprise, social entrepreneurship and the social economy is limited. A major challenge is the lack of institutional capacity and knowledge to recognize the value of the sector and support its development. Regarding the institutional set-up, there is no specialized government body in charge of the development of the social economy sector, which clearly demonstrates the lack of knowledge of the bodies in this area (Ilievski & Iloska, 2018). The Law on Social Entrepreneurship has been in the process of being submitted for many years, and this prevents the faster development of social enterprise. But it is a pleasing factor that in addition, there is a strategy for the development of social enterprises in the Republic of North Macedonia 2021-2024, as well certain municipalities have already adopted strategies for social enterprises, such is the example of the Municipality of Bitola, which has already created a strategy for social enterprises 2023-2026. The Center for Social Enterprises plays a major role in the development of social entrepreneurship. The Center for Social Enterprises[16] is designed to function as an incubator to support existing and new social enterprises, as well as civil society organizations that have economic activity. Currently, the use of the premises in the Center is free for social enterprises and civil society organizations.

In the Republic North Macedonia, a total of 57 social enterprises have been identified in the eight planning regions in the Republic of North Macedonia. Most of the legal entities are civil organizations (associations of citizens, associations, foundations) registered according to the Law on Citizens' Associations and Foundations (a total of 34 social enterprises or 59%). Furthermore, 37% of legal entities are enterprises registered under the Law on Commercial Companies (limited liability companies LLC and one-person limited liability companies - LLC). As cooperatives, according to The Law on Agricultural Cooperatives and Farmers according to the Law on Agricultural Practices activity is registered only 4% (Strategy for social enterprises 2023-2026). The social enterprises in the country are small entities/organizations, with a small number of employees, ranging from 1 to 5 people.

For the purposes of this paper, 30 forms (organizations, associations, cooperatives) of SE were contacted, but direct communication was established with 14 of them. The organizations that have the form of social enterprises usually use some of the following legal forms: cooperatives, trading companies, associations, and foundations and similar. From Table 1, can be seen the main activity of the organization/enterprises that work in the field of social entrepreneurship and their main target group. A large part of them are non-governmental organizations and with all citizens as a target group. But some of them are good examples for social enterprises that work with groups of people with special needs or fewer opportunities.

Table 1: Main activity and target group in the scope of social enterprises/organizations

Interviewed SE	Activity of the organization	Target group
SE 1	Social integration and strengthening of the SEE region through individual and group coaching in the areas of education, legal aid, employment and psychosocial support.	All citizens
SE 2	Inclusion of marginalized citizens communities.	Sex workers and drug users

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[16] Center for Social Enterprises, https://centarsp.mk/za-centarot-za-socijalni-pretprijatija/. Accessed on 06.09.2023

SE 3	Creating positive policies and strategies for successful rehabilitation and reintegration by providing inclusive jobs. Services in the home, intended for people with Alzheimer's disease, people with multiple sclerosis, people in need of palliative care, children and adults with disabilities, old and frail people, chronically ill, absence from family care. Social services, intended for children and adults with disabilities, people who have suffered a stroke, parents, and families of people with disabilities.	People with Alzheimer's disease, people with multiple sclerosis, people in need of palliative care, children and adults with disabilities, old and frail people, chronically ill and people, absent from family care
SE 4	Rental of space for organizing events and co-working space	All citizens
SE 5	Cares for a better future for marginalized groups, as well as for public space and the environment	Representatives from the most vulnerable groups in society
SE 6	Increasing knowledge among Roma women	Roma women
SE 7	Preservation, appreciation, affirmation and presentation of Macedonian culture and tradition	All citizens
SE 8	Rehabilitation of addicts, a process that lasts at least 18 months, and ends with their reintegration into society.	Drug, alcohol and gambling addicts
SE 9	Donating clothes and distributing them to the most vulnerable	All citizens
SE 10	The first bar in the country where the hosts are people with hearing impairment and communicate with their guests in sign language.	All citizens
SE 11	Recycling	All citizens
SE 12	Handmade works of copper, clay, craftsmanship of jewelry, crocheted and knitted products and others. Art pieces.	All citizens
SE 13	Hotel that employs people with Down syndrome	All citizens (people with Down syndrome)
SE 14	Production of products from recycled material	All citizens

Source: Authors' analysis

Social enterprises in North Macedonia are organized in the form of LLCs, Associations, non-governmental organizations, as well as associations of a group of citizens that do not yet have a form and are in the formation phase. They are mostly represented as associations, but there is a large part that still does not have a form but provides services from a social aspect. They are mostly represented in the following areas: production of eco-products, services in tourism and hospitality, sale and resale of products, care services, renting space for creation and socializing, making jewelry

and decorations and more. The following social forms can be cited as good practices: "Ulaf ste"[17]- It is the first bar in the country where the owners are hearing impaired and communicate with their guests in sign language; " Face to face"[18] - is a street magazine - sellers of the magazine are representatives of the most vulnerable groups in society, who are trained to sell and earn half of the amount of a sold magazine; " Care plus"[19] - association for health education and research formed by six volunteers, medical students; and " Mama Organa[20]" - social enterprise for the production of natural fertilizers, soil improvers (perlite, vermiculite, zeolite), eco sand for pets, etc.

The main idea of the owners for creating a social enterprise/ organization is desire to improve the lives of people with a certain type of addiction, disability, or old age, as well as their employment - creating equality and eliminating discrimination.

From the analysis and similarity of the received answers from primary research, the Table 2 highlights the key challenges in the development of social enterprises in Republic of North Macedonia.

Table 2: Key challenges in the development of social enterprises

Main challenges of social enterprises	*1. Legal challenges:* ➔ Unregulated activities due to the absence of laws and regulations that would regulate the area. ➔ Insufficient state incentives and programs Insufficient Institutional support and others. *2. Economic (financial) challenge:* ➔ Need to provide long-term financial resources to cover general expenses, as well as short-term financial resources to provide current activities. ➔ Need for development of business skills: presentational, promotional, communication, etc. ➔ Insufficient business cooperation and understanding from traditional businesses/organizations. *3. Social challenges:* ➔ Working in an environment where knowledge and awareness among the population as potential consumers are low. ➔ Addiction, misunderstanding of the environment and disappointments. ➔ Difficult communication and understanding due to disability
Types of support needed	➔ Financial support ➔ Institutional support (expressed through a clear strategy for local development in the field of social entrepreneurship) ➔ Material support (equipment of workshop, exhibition space for the exhibition of finished products for sale, raw materials, and work materials) ➔ Educational support (competence building, workshops,

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[17] Ulaf ste coffe shop, https://www.facebook.com/ulafstecoffeshop/
[18] Face to face, https://licevlice.mk/za-nas-lvl/
[19] Care plus Hera https://hera.org.mk/pochetna/nega-plus/
[20] Mama Organa, https://mamaorgana.mk

	and trainings)
	➔ Corporate support (of the traditional business)
Key factors for the development of social enterprises	➔ Financial factors ➔ legislation and long-term planning ➔ Institutional factors (support from institutions and municipalities) ➔ Civil factors (low awareness and knowledge of the population for social entrepreneurship).

Source: Authors' analysis

During the interviews, it was found that the biggest obstacles (challenges) for SE are: the insufficient finances that prevent them from realizing their ideas, as well as the lack of institutional support and the lack of interest of citizens and companies.

Organizations/enterprises/associations in infancy have a desire for development, each in a different way to contribute to the environment, as well as improving the value of life of vulnerable categories of citizens. If this trend continues, social entrepreneurship in the Republic of North Macedonia may contribute an initially significant percentage to the GDP rate. All organizations, associations, enterprises that were surveyed aim to expand and upgrade. They aim to employ more people from vulnerable categories and give value to their work, while encouraging them to invest in themselves by helping society.

5. CONCLUSION

Social entrepreneurship in the Republic of North Macedonia is in the initial stages of development. Namely, it is important to emphasize that in the country there are social businesses of different scales and forms that are trying to develop the concept of social entrepreneurship, but they still need a lot of support from different aspects. Every day they face difficulties of a different nature - social, economic, legal, etc. It is necessary to work on raising the awareness of the citizens about what social entrepreneurship is, as well as encouraging traditional businesses for greater cooperation and support of social enterprises.

It is crucial for stakeholders, including researchers, policymakers, and practitioners, to work together and adapt strategies to the unique needs of Macedonian communities while also contributing to a larger discussion on social enterprise development globally as social entrepreneurship continues to develop. Strategies for encouraging social entrepreneurship must incorporate the following measures and activities: finalizing the process of adopting legislation; creation of educational programs for social entrepreneurship, support for young people to open a social business, support for existing companies to invest in social business (exemption from taxes, percentage coverage of costs for monthly compensation of employees), increasing awareness and knowledge among the population about the meaning of social entrepreneurship, the institutional support expressed through a clear strategy for local development in the field of social entrepreneurship; planning of budget funds for social entrepreneurship, etc.

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THE INTERPLAY OF GENDER, AGE, EDUCATION LEVEL AND THERMAL SATISFACTION: EVIDENCE FROM BOSNIA AND HERZEGOVINA

ABSTRACT

The purpose of this paper is to examine the interplay between gender, age, education, and thermal satisfaction of the employees and users in public buildings, such as schools, public administration, and clinics. The study uses data collected from a random stratified sample from Bosnia and Herzegovina. The central variable of interest represents a dummy variable indicating weather individuals are satisfied with the heating of the rooms. When not controlling for the type of institution, our results indicated that gender and education level might be important to consider, along with other relevant variables. In addition to this, our results show that the results do not differ significantly when the dependent satisfaction variable is measured binary (dummy) or on a five-point Liker Scale. Logistic regression offers the interpretation in terms of odds, which might be more intuitive. Our results also indicate that age might be an important predictor in the evaluation of indoor temperature, with older participants reporting the rooms in institutions to be higher than younger ones. The results of this study could be useful when designing policies aiming to improve the energy efficiency of the building. Understanding optimal thermal satisfaction might have important consequences for thermal energy consumption, especially in the context of understanding how individual characteristics, such as gender, age, and education level, might contribute to the reduction of energy consumption. Addressing the demand side of the energy consumption equilibrium, we might contribute to the better use of existing energy sources. The results of this paper might also offer useful guidelines when designing more complex studies, especially regarding the debate if the use of a Likert scale is appropriate.

Key words: thermal satisfaction, age, gender, education level, Bosnia and Herzegovina

JEL: D1

1. INTRODUCTION

The purpose of this paper is to examine the interplay between gender, age, education, and thermal satisfaction of the employees and users in public buildings, such as schools, public administration, and clinics. As early noted by Choi, Aziz, and Loftness (2010, p. 1529), the thermal comfort formula does not consider the role of gender and age, even though their influence might be important. In addition to that, Choi, Aziz, and Loftness (2010, p. 1529), while providing some evidence in their literature research section, concluded that "these two gender and age issues are not clearly established with contradictory results from various research studies". Wang, de Dear, Luo, Lin, He, Ghahramani, and Zhu (2018, p. 192) also found that there are no clear and consistent conclusions regarding differences between females and males or between young and old ones. As thermal comfort depends on the occupant's clothing, activity levels, and building characteristics, energy savings could be achieved by their modifications (Meier, 1994). However, as noted by Wang et al. (2018, p. 181), it is challenging to find a thermal environment suitable for all occupants, because different groups of people might prefer different thermal environments. According to the

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"adaptive" hypothesis (De Dear, 1998, p. 1), "factors beyond the fundamental physics and physiology all interact with thermal perception", including demographics, context, and cognition. However, while De Dear (1998, p.2) pointed out that these factors are irrelevant to the comfort responses in the climate chamber settings, adaptive modelers do not dismiss such consideration in the context of real buildings. As can be seen, discussions about the role of demographic and contextual variables have started early in the existing literature and are an integral part of some existing theories, but their role is still contradictory. Our paper aims to present some additional evidence in that regard, by testing the differences in thermal satisfaction between different genders, age groups, and educational levels. We also tested how these variables behave when integrated into one model and when controlling for the building characteristics, and present how logistic regression could be used to provide a more intuitive interpretation of the coefficients. Understanding optimal thermal satisfaction might have important consequences for thermal energy consumption. First, the COVID-19 crisis showed us how energy sovereignty is affected (Brosemer et al., 2020, pp. 1-5): the lack of energy might compromise basic health services; energy production is causing more people to be exposed to environmental pollution, and access to energy services might not be possible for all individuals in case stable income is lost due to events such as COVID-19. The energy outlook 2023 report (EIU, 2022, p.1) envisions a rise in global energy consumption by 1.3%, but also an increase in coal consumption to compensate for gaps in gas supplies; the possibility of extreme weather conditions forcing companies to use fossil fuels and delay the energy transition; and pausing for the moment intentions to phase out the use of nuclear power. These circumstances highlight why it is important to understand how individual characteristics, such as gender, age, and education level might contribute to the reduction of energy consumption. Addressing the demand side of the energy consumption equilibrium, we might contribute to the better use of existing energy sources.

2. LITERATURE REVIEW

The results of Choi, Aziz, & Loftness's (2010, p. 1535) study that investigates the impact of gender and age on thermal satisfaction in buildings show that female respondents are more dissatisfied with the thermal environments, and that age plays a role in assessing the thermal environment, i.e., older than 40 are more satisfied than those younger ones. However, the role of gender and age issues in the context of satisfaction with the thermal environment is not straightforward (Choi, Aziz, & Loftness, 2010, p.1535). The literature typically recognized that females are more likely to report thermal dissatisfaction than males (Cena & de Dear, 2001, p. 414; Karjalainen, 2007, p. 1594; Modera, 1993, p. 210; Parsons 2002, p. 595), or females were less satisfied with thermal stratification, but these gender differences were lost when exposure times were increased (Hashiguchi, Feng, & Tochihara, 2010, p. 44). Other authors found no differences between genders in the champers experiment (Fanger et al. 1974, p. 18; Grivel & Candas 1991, p. 365; de Dear et al., 1991, p. 874) or field study (Peng, 2010, p. 505). Wang et al. (2018, p. 185), in their systematic literature review, found 29% of studies that reported significant differences between males and females, 32% reported weak or significance was not reported and 39% found insignificant results.
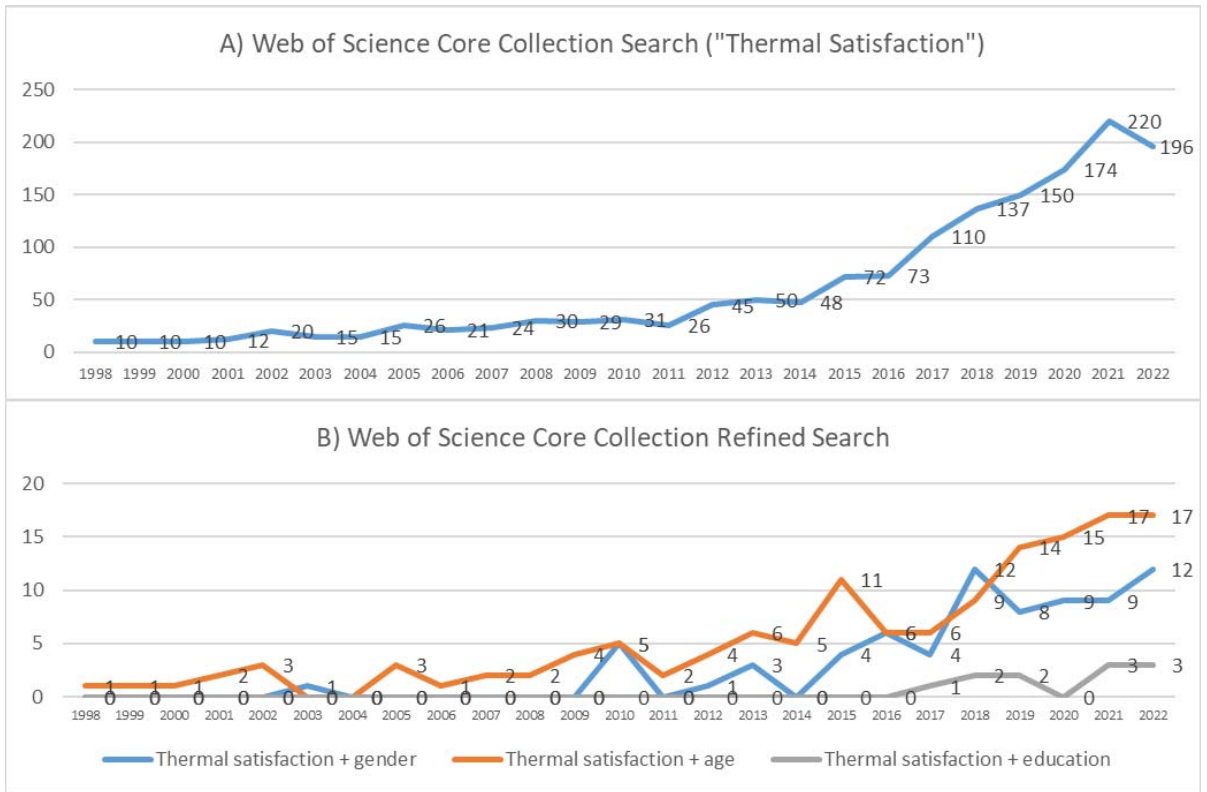
Figure 1. Web of Science Core Collection search for the selected keywords

We conducted a Web of Science Core Collection Search to understand research interest in the topic. The search for the word "thermal satisfaction" in the title, abstract, author keywords, and keywords plus fields resulted in a total of 1,554 articles published from 1998 to 2022 (see Figure 1, part A). However, a significant rise in the number of papers can be observed from 2012 with 220 papers being published in 2020 alone. When we refined the search with our other keywords, gender, age, and education, a significantly lower number of papers appeared (see Figure 1, part B). While the positive trend is evident, the low number of articles with these specific words might also indicate that this topic still does not have enough attention from the research community.

Cena & De Dear (2001, p. 413) found that 12% of males expressed thermal unacceptability compared to 19% of females in the winter, while 8% of males and 14% of females expressed thermal dissatisfaction in summer. These differences, as noted in their study, could be explained by clothing differences. This means that in the context of using air condition systems, it is required to meet the needs of two different sub-populations. However, Cena & De Dear (2001, p. 414) concluded their study with the results that "there is little difference (particularly in summer) between the sexes in terms of thermal sensations." Karjalainen (2007, p. 1594) states that the differences between male and female subjects are typically considered to be small. However, the study itself shows significant differences between males and females. In particular, males were more satisfied with the room temperatures than females in both seasons. In the office, female participants are found to be less satisfied with the thermal environment during both seasons, feel cold more often during both seasons, feel warm more often during the summer season, and feel they have less control over the temperatures in the room during both seasons (Karjalainen, 2007, p. 1598).

Modera (1993, p. 210) demonstrated that female research participants are more sensitive to cool environments, and consequently show more discomfort in cool environments. Similarly, Lan, Lian, Liu, & Liu (2008, p. 471) showed that there are gender differences in thermal comfort for Chinese people, using two laboratory experiments with two measures (skin temperature and heart rate

variability). Their results also support the finding that females are more sensitive to temperature but less sensitive to humidity than males. In regard to the preferable indoor environment, the study showed that females prefer neutral or slightly warmer conditions, which is due to their lower skin temperature. However, Parsons (2002, p. 593), while investigating the effects of gender over three hours of exposure in simulated environments, found only small differences in the thermal comfort responses of male and female respondents.

The current literature also does not provide a straightforward answer regarding age, as noted by Choi, Aziz, & Loftness (2010, p. 1529). Older people might prefer higher temperatures because of the lower level of their activities during the day as they age (Meier, 1994). However, due to changes in physiology, males can require different thermal comfort conditions with aging, which is not the case with women (Young, 1991, p. 205). Wang et al. (2018, p. 188), in their systematic literature review, found that in 23% of studies significant age-related differences in comfort temperatures were reported, 23% reported weak or significance levels were not reported and 54% found insignificant results. Early climate chamber experiments found no statistically significant age-related differences with clothing being held constant. Compared to their young counterparts, differences were not observed in Taylor, Allsopp, & Parkes (1995; p. 218-219) when considering preferred temperatures, while the elderly group reported a lower level of comfortability in cold-induced changes and the opposite, i.e. they reported being more comfortable in heat-induced changes. In the field studies, some studies found significant age-related differences, some found weak, while the majority reported insignificant age-related differences (Wang et al., 2018, p.188).

3. THE SAMPLE AND METHODS

As a part of the "Social Monitoring and Evaluation for the Implementation of the Energy Efficiency Improvements in Public Buildings" activity, microdata from individuals working or visiting buildings was collected using a CAPI-administered survey. Respondents represent the users (patients, students aged 15+, and service users) and employees of buildings (such as doctors, professional staff, administrative staff, technical staff, and teachers) collected using a random stratified sample. The sample includes individuals working or visiting seven objects (schools, public administration, and clinics), and the sample is representative in terms of geographical location, type of object, number of users, and amount of investment.
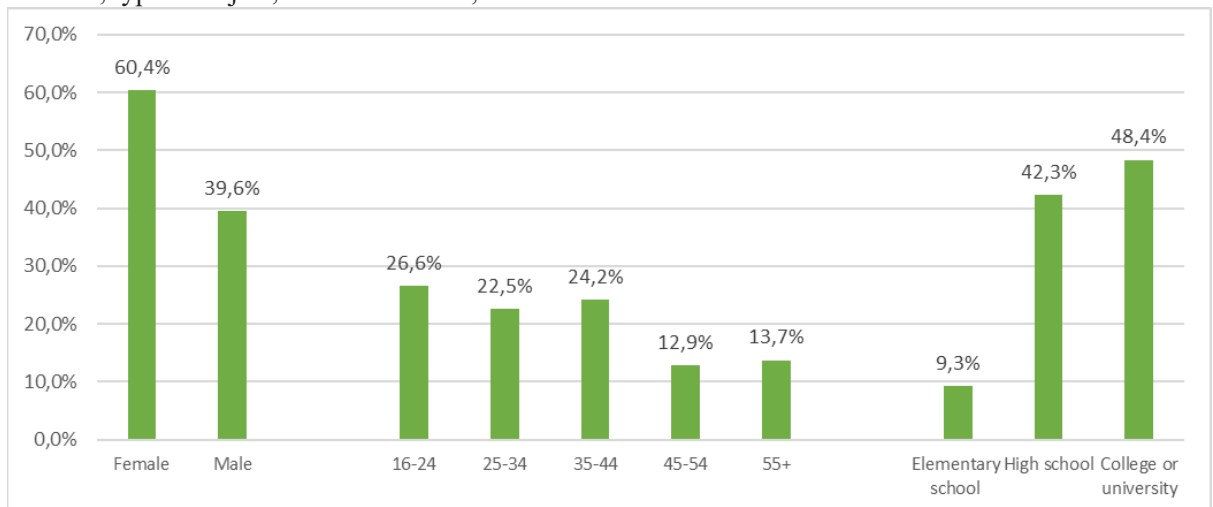

Figure 2. Sample Characteristics

The total number of respondents is 364. Female respondents are more represented as they make up 60.4% of the total sample. Participants in all age groups are represented, with most participants belonging to the 16-24 age group (26.6%). The second largest age group is the middle age, i.e., 35-

44, representing 24.2%, followed by the 25-34 age group (22.5%). Respondents older than 45 and 55, are less represented, i.e., 12.9% and 13.7% respectively. The proportion of participants with no education or only elementary education is 9.3%, followed by respondents with high school achievement (42.3%) and college or university (48.4%).

The key variable of interest is thermal satisfaction, measured by the question "To what extent are you personally satisfied with the heating of the rooms where you spend the most time in this institution?" on a five-point Likert scale: (1) completely dissatisfied, (2) mostly dissatisfied; (3) neither satisfied, not dissatisfied, (4) mostly satisfied and (5) completely dissatisfied. The question was also recoded into a new dummy variable to include only those participants who are either mostly satisfied (4) or completely satisfied. Another question that is of interest to this study is related to the perceived indoor temperature, measured quantitatively by asking the question: "In your estimation, what is the average temperature in the premises of the institution during the winter period?"

The data were analyzed in STATA 15.1 using simple, multiple and logistic regression.

4. RESULTS AND DISCUSSION

In this section, we present the results of the analysis. First, we provide a brief description of the percentage of the respondents satisfied in each observed group. Afterward, we present the result of simple regression to test the interplay between gender, age, education level, and thermal satisfaction.

Table 1 shows the main variables and related descriptive statistics of the sample. Overall, 34.89% of respondents were satisfied with the heating of the rooms where they spend the most time in their institutions. As the Table 1 indicates, the proportion of male respondents satisfied with the heating system (43.75%) is higher than that of female respondents (29.09%). Male respondents also perceived the average indoor temperature to be 19.40°C, which is on average 0.68°C higher than for female respondents. Across various age groups, the proportion of participants being satisfied with the heating system is between 32.90% and 32.95% for respondents younger than 44 years, and around 40% for participants older than 44 years. Older respondents indicated higher average indoor temperature than younger participants: 20.49°C for the 55+ age group, 19.58°C for the 45-54 age group, 18.91°C for the 35-44 age group, 19.03°C for the 25-34 age group, and 18.19°C for the 16-24 age group. Except for the 25-34 age group, the descriptive statistics indicate that as participants get older, a higher perceived indoor temperature was reported. Finally, participants with high school degrees reported the highest thermal satisfaction (40.91%) as well as the highest perceived indoor temperature (19.32°C), compared to other levels of education.

Table 1. Descriptive statistics

		Frequency	Thermal satisfaction (%)	Average perceived indoor temperature
Total	Total sample size	364	34.89%	
Gender	Male	144	43.75%	19.40 (SD = 3.55)
	Female	220	29.09%	18.72 (SD = 3.85)
Age	16-24	97	32.90%	18.19 (SD = 3.53)
	25-34	82	32.93%	19.03 (SD = 4.08)
	35-44	88	32.95%	18.91 (SD = 3.96)
	45-54	47	40.43%	19.58 (SD = 3.25)
	55+	50	40.00%	20.49 (SD = 3.41)
Education	Elementary school	34	17.65%	16.62 (SD = 2.72)
	High school	154	40.91%	19.32 (SD = 3.49)
	College or university	176	32.95%	19.16 (SD = 3.98)

Institution	Clinic 1	44	25.00%	18.91 (SD = 3.78)
	Clinic 2	44	70.45%	21.91 (SD = 1.62)
	Clinic 3	39	10.26%	20.09 (SD = 2.94)
	Clinic 4	45	60.00%	20.81 (SD = 3,08)
	Faculty 1	50	40.00%	19.30 (SD = 2.73)
	Faculty 2	31	0.00%	15.61 (SD = 2.34)
	Police Academy	53	62.26%	20.42 (SD = 3.66)
	High school 1	58	1.72%	15.1 (SD = 3.01)

First, we present the results when satisfaction is considered as a binary variable where 1 indicates respondents are mostly or completely satisfied. To test if there is a statistically significant difference in thermal satisfaction between different groups, we constructed several logistic models. The first model test whether female respondents report higher or lower satisfaction with the heating system. Our results indicated that the odds for females are about 47% lower than the odds for males to report satisfaction with the heating system. Age (Model 2) does not seem to play an important role in terms of being satisfied with the heating system. There is a statistically significant difference in the thermal satisfaction between participants of different education levels (Model 3), i.e. the odds for the participants with the high school education level are 223% higher than the odds for the reference group (elementary school of less), while odds for the participants with college/university degree is 129% higher. However, when we control for the type of object (education, health, and police academy) and observe these variables in an integrated model (Model 4), these differences are no longer observed. The odds of a respondent from health institutions reporting higher thermal satisfaction are 356% higher than the odds for education institutions, while for the policy academy it is 729% higher. We argue that while statistically significant differences can be observed when testing the differences between individual variables, the most variance in the model is explained by characteristics of the objects in which the respondents reside or work.

Table 2. Results of regression model with satisfaction being binary variable

Independent Variable	Odds ratio (standard error)				
	Model 1 (Gender)	Model 2 (Age)	Model 3 (Education)	Model 4 (Integrated)	Model 5 (Integrated with control variable)
Constant	0.77 (0.13)	0.49 (0.11***)	0.21 (0.10***)	0.31 (0.15**)	0.16 (0.08***)
Female (FEM)	0.53 (0.12***)	-	-	0.56 (0.13**)	0.70 (0.18)
Age (AGE) Ref. group 16-24)					
25-34	-	0.997 (0.32)	-	1.00 (0.37)	0.55 (0.22)
35-44	-	0.998 (0.31)	-	1.05 (0.37)	0.67 (0.27)
45-54	-	1.38 (0.51)	-	1.49 (0.62)	0.91 (0.41)
55+	-	1.35 (0.49)	-	1.34 (0.51)	0.82 (0.35)
Education (EDU) - Ref. Elementary school or less					
High School	-	-	3.23 (1.55**)	2.77 (1.36**)	2.01 (1.02)
College/University	-	-	2.29 (1.09*)	2.04 (1.09)	1.67 (0.92)
Institution (INST) - Ref. group Education institution					
Health institutions	-	-	-	-	4.56 (1.42***)
Police academy	-	-	-	-	8.29 (3.32***)
Pseudo R^2	1.74%	0.35%	1.63%	3.32%	11.99%

Dependent variable: Thermal satisfaction (binary outcome)
***Significant at 0.01 level. **Significant at 0.05 level. *Significant at 0.10 level.

Table 3 presents the results of similar models but instead of being measured as a dummy variable, thermal satisfaction is measured on a five-point Likert scale. The results indicated that gender alone could reduce thermal satisfaction by 0.49 points (Model 1) or 0.43 (Model 4). As is the case with logistic regression, gender becomes insignificant when the type of institution as a control variable is introduced (Model 5). Participants with higher school being their highest achieved education level can expect 0.91 points higher satisfaction, while with college/university degrees 0.65. With control variables introduced in the model, one of the education levels (high school) remained significant at 10%, which was not the case with the logistic regression model.

Table 3. Results of regression model with satisfaction being measured on Likert scale

Independent Variable	Coefficients (standard error)				
	Model 1 (Gender)	Model 2 (Age)	Model 3 (Education)	Model 4 (Integrated)	Model 5 (Integrated with control variable)
Constant	3.07 (0.12***)	2.61 (0.14)	1.81 (0.15***)	2.34 (0.26***)	1.88 (0.24***)
Female (FEM)	-0.49 (0.15***)	-	-	-0.43 (0.15**)	-0.22 (0.14)
Age (AGE) Ref. group 16-24)					
25-34	-	0.22 (0.21)	-	0.25 (0.24)	-0.33 (0.22)
35-44	-	0.14 (0.21)	-	0.20 (0.24)	-0.25 (0.22)
45-54	-	0.23 (0.25)	-	0.30 (0.27)	-0.21 (0.24)
55+	-	0.36 (0.36)	-	0.35 (0.24)	-0.17 (0.23)
Education (EDU) - Ref. Elementary school or less					
High School	-	-	0.91 (0.26***)	0.72 (0.27**)	0.43 (0.24*)
College/University	-	-	0.65 (0.26**)	0.43 (0.30)	0.32 (0.26)
Institution (INST) - Ref. group Education institution					
Health institutions	-	-	-	-	1.34 (0.15***)
Police academy	-	-	-	-	1.77 (0.21***)
Adjusted R^2	2.62%	0.001%	2.80%	4.23%	26.87%

Dependent variable: Thermal satisfaction (measured on Likert scale)
***Significant at 0.01 level. **Significant at 0.05 level. *Significant at 0.10 level.

Another purpose of this paper is to test whether gender, age and education level can be used to report higher or lower indoor temperatures. Table 4 presents the results, with a perceived indoor temperature being the dependent variable measured in degrees Celsius. While the coefficient is negative, indicating that female respondents might be more inclined to report lower indoor temperature, this result is statistically insignificant in all models. When not controlling for the institution, participants in the 45-54 age group reported 1.38°C higher indoor temperature than those in the 16-24 age group (significant at 5%), and older than 55 reported 2.29°C higher indoor temperature. Respondents with higher education levels are about to report higher indoor temperature, i.e., 1.97°C higher in case a respondent has high school degrade, and 1.99°C higher with a college/university degree, compared to the elementary or lower education levels. When all

variables are integrated into one model, age (55+) and education are still significant. However, with control variables, only college/university is significant at 10%.

Table 4. Results of regression model with perceived indoor temperature as dependent variable

Independent Variable	Coefficients (standard error)				
	Model 1 (Gender)	Model 2 (Age)	Model 3 (Education)	Model 4 (Integrated)	Model 5 (Integrated with control variable)
Constant	19.40 (0.34***)	18.19 (0.39***)	16.61 (0.72***)	16.89 (0.79***)	16.42 (0.70***)
Female (FEM)	-0.68 (0.44)	-	-	-0,61 (0.44)	-0.38 (0.41)
Age (AGE) Ref. group 16-24)					
25-34	-	0.85 (0.62)	-	0.42 (0.73)	-1.16 (0.66*)
35-44	-	0.72 (0.59)	-	0.38 (0.72)	-0.97 (0.65)
45-54	-	1.38 (0.70**)	-	1.05 (0.79)	-0.41 (0.71)
55+	-	2.29 (0.72***)	-	1.97 (0.75***)	0.37 (0.68)
Education (EDU) - Ref. Elementary school or less					
High School	-	-	2.70 (0.79***)	2.20 (0.94***)	1.06 (0.74)
College/University	-	-	2.55 (0.79***)	1.99 (0.94**)	1.37 (0.831*)
Institution (INST) - Ref. group Education institution					
Health institutions	-	-	-	-	4.09 (0.45***)
Police academy	-	-	-	-	3.42 (0.57***)
Adjusted R^2	0.46%	2.43%	3.34%	4.84%	27.54%

Dependent variable: Perceived indoor temperature (°C)
***Significant at 0.01 level. **Significant at 0.05 level. *Significant at 0.10 level.

Different factors affect perceived thermal satisfaction and perceived indoor temperature. Female participants might experience different levels of dissatisfaction because of several reasons, which could be divided into two groups (Wang et al., 2018, p. 185): behavioral and physiological reasons. Behavioral reasons might include differences in clothing, which as a consequence could result in females reporting lower levels of satisfaction. Physiological reasons are related to metabolic rate in cold exposure, stroke volumes, and blood circulation to the extremities in cold exposures (Wang et al., 2018, p. 186). Regarding the age-related differences, heat production and heat dissipation are two hypothetical explanations for why no age-related differences are reported in the preferred temperature (Wang et al., 2018, p. 187), meaning that older people might have lower metabolic rate or weakened vasodilatation and vasoconstriction.

5. CONCLUSIONS

The purpose of this paper is to examine the interplay of gender, age, education level, and thermal satisfaction. When not controlling for the type of institution, our results indicated that gender and education level might be important to consider, along with other relevant variables. In addition to this, our results show that the results do not differ significantly when the dependent satisfaction variable is measured binary (dummy) or on a five-point Liker Scale. However, logistic regression offers the interpretation in terms of odds, which might be more intuitive. On the other hand, regression analysis offers interpretation by demonstrating changes in points. Our results also indicate that age might be an important predictor in the evaluation of indoor temperature, with older

participants reporting the rooms in institutions to be higher than younger ones. The results of this study could be useful when designing policies aiming to improve the energy efficiency of the building, as the results might differ depending on the age, gender, and education level. The results of this paper might also offer useful guidelines when designing more complex studies, especially regarding the debate if the use of a Likert scale is appropriate.

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AFTER MASS TOURISM... THE TRANSFORMATION OF TOURISM AT LAKE BALATON IN THE LAST THIRTY YEARS

Abstract

Lake Balaton is the largest lake in Central Europe and one of the most important Hungarian tourist destinations. In the 1970-80s, it had a dual function according to the economic policy goals. First, it had to meet the needs of mass tourism in Hungary, and secondly, it played a major role in the production of foreign currency from the West. In addition, Balaton was an important meeting point for citizens of the two German states of the time. The quality of the services was adapted to the needs of the millions of visitors annually. However, the situation of Lake Balaton changed after the regime change in 1990. State ownership could be no longer maintained and privatisation introduced the private sector model. There was little or no possibility for the former central or large-scale corporate recreation. As a result of political and economic changes and the significant drop in inflation and real incomes, tourism at Lake Balaton declined spectacularly, especially the large number of foreign tourists disappeared from the system. However, the potential of the lake has attracted renewed attention in recent decades. Since the 2000s, and especially since EU accession, more and more people have turned to it. This required a central vision of its situation, as well as local development plans based on long-term strategic objectives. The study shows how private capital, municipal and EU funds have changed over the last two decades. These developments can be seen in the transformation of the infrastructure, the construction of water and sewerage systems, transport improvements, the construction of hotels, the creation of a quality catering system, the organisation of programmes to boost visitor numbers, and last but not least, changes in the visitor base. All this has made the region more popular again, the second most visited tourist destination in Hungary.

Key words: Balaton, development, regime change, tourism, changes in tourist traffic

JEL: R10, Z30, Z32

1. INTRODUCTION

Lake Balaton is the largest lake in Central Europe, 77 km long and on average 7.7 km wide. After Budapest, it is the second most popular tourist destination in Hungary, increasing its visitor numbers especially in the summer months. The development of tourism in the destination started in the 1880s, when a few landlords recognised the economic and cultural importance of tourism and started to develop infrastructure. This development process has been interrupted to a small extent, but is still continuing today. Over 140 years, a number of medium-sized towns have grown up from the small villages of the past. The present-day Balaton Region includes 174 settlements, 42 of which are located directly on the coast. Lake Balaton is also a symbol. In certain periods, it has become a characteristic centre of Hungarian human culture, and high-quality works of painters, writers and poets are associated with the lake and the landscape around it. However, the region has changed a lot since the end of socialism. The birth of the market economy, rising incomes, the emergence of private and foreign capital, and the use of EU funds have brought huge changes to the life of the area. Today, Lake Balaton is still an attractive destination for the domestic holidaying

masses. It is therefore worth examining the changes that have taken place in the Balaton Region since the political regime change in 1990, how the former culture of mass tourism has been transformed, and what opportunities and problems the region has.

2. LAKE BALATON AS A RESEARCH TOPIC: A LITERATURE REVIEW

The region of Lake Balaton is a popular research topic for several disciplines. Whether the whole region or just a single municipality has been studied differs from one discipline to another. At the beginning of the 20th century, descriptive studies were carried out on the settlements around the lake as bathing areas. The bathing culture in the region developed in the late 19th century. The main driving force was the local landowning families (Kaposi 2021). In the second half of the 20th century, due to mass tourism, the water quality deteriorated rapidly and the lake was in serious danger, so in those years several hydrological studies were made with the aim of saving Lake Balaton. Numerous researches have been undertaken on the history of the different municipalities. Without claiming to be exhaustive, the history of Balatonföldvár published in 1986 and Siófok in 1989 (Reőthy 1986; Sági 1989) are worth mentioning. The present-day Balatonboglár and Balatonlelle have been a popular subject of urban history research (Laczkó 1988; Horváth 1943; Wilhelm 2021, 2023).

The first tourism-focused works viewing Lake Balaton as a one tourist destination were published after the regime change. They highlighted problems in the tourism of the region, some of them still persisting today. Restoring the water quality of the lake was identified as a priority (Lengyel 1995). In addition to environmental considerations, the issue of seasonality has also emerged, which is still one of the most dominant characteristics of tourism in Balaton Region (Lengyel 2004, p. 270; Wilhelm 2023, p. 99). A major task after the regime change was to put the tourism of the region on a new basis: a complex tourism product was defined that created new capacities in the destination by linking the coastal and hinterland areas. The new tourism image was based on the region's shallow lake, which, due to the integration, included a more diversified offer, providing alternatives in case of bad weather (Lengyel 2004, p. 270; Wilhelm 2021, p. 75), although the missing institutional background for its development undoubtedly hindered its improvement (Buday-Sántha 2007, p. 20-21).

The literature provides a broad picture of the economic history of the settlements along Lake Balaton. However, a comprehensive regional study is missing, which shows the developments that have taken place in the destination of Lake Balaton in the 30 years since the regime change. The aim of this study is to present - with the help of literature, archives, statistical and other sources - the most important changes in the whole region since 1990, focusing on utilities, transportation, basic infrastructure and the expansion of accommodation facilities. The study of tourism at Lake Balaton is also important because it has a major impact on Hungarian GDP growth, on foreign exchange reserves and on foreign visitors' perception of the country.

3. THE AGE OF MASS TOURISM

In order to understand the changes after 1990, we need to outline the key features of the previous period. From 1949, a communist dictatorship was established in Hungary. A Soviet-style planned economy was introduced, based on nationalisation: within a few years the state took over the former private economy (factories, buildings, villas, holiday homes, etc.) (Kaposi 2002, p. 335-337). As a result, at the major tourist destinations in Hungary (Budapest, Balaton Region, etc.), the former private owners lost their property, while at the same time some of them were imprisoned and interned. On the other hand, economic policy often had nothing to do with the nationalised properties, as Hungary was also building a country of iron and steel, and the financing of huge industrial projects left no resources to run the former holiday resorts.

The turning point came in 1963, when the state recognised the potential of tourism and the government adopted a regional settlement plan, and in 1969 a long-term development plan (Rátz 1999, p. 69). The state transformed castles, mansions, villas, etc. near Lake Balaton to provide

recreation facilities for the working masses. The summer holidays provided recreational opportunities for an increasing number of people. Social tourism was organised by trade unions (Marton 2013, p. 168). Some of the state-owned real estates were in the hands of a large companies or institutions (post office, army, railways, mines, etc.). Corporate holiday homes had the advantage of generally being located on the waterfront, with minimal fees. The holiday homes were undemanding and the state or the companies had no money to renovate them. In Hungary, half a million people in 1960 and 1.5 million in the 1980s received a discounted voucher to one of the Hungarian resorts (Romsics 1999, p. 509), about two-thirds of the latter at Lake Balaton.

A new aspect of mass tourism was that after the economic reform of 1968, the productivity of the Hungarian economy improved and household incomes increased, which, coupled with low-interest loans supported by the state, led to a huge increase in private house building. Especially on the southern shore of the lake, large holiday home areas developed, where a large number of private houses were built in the 1970-80s. These were modest in quality, but closely linked to the industrialisation of the country, as a third of the population already lived in urban flats, which meant they had the opportunity to spend longer periods or weekends in summer relaxing at Lake Balaton.

An important feature of the era was youth tourism, which on the one hand came from socialist ideology: a large number of pioneer camps (Balatonfenyves, Zánka) were built for 10-14 year olds, which operated on a military system. The KISZ camps for 15–18-year-olds were also aimed at Marxist persuasion. However, young people did not only appear on the shores of Lake Balaton in a controlled arrangements. The results of the student revolts in the West and the need for social freedom shaped the attitude leading to the emergence of rebellious youth. The emergence of rock bands and the freedom of the summer on Lake Balaton attracted the masses. Campsites were built on the shores, where they could experience the desire for freedom in simple tents with minimal infrastructure.

In the 1970-80s, Hungarian economic policy partly moved away from the Soviet model: higher incomes and a better consumption system ("Goulash communism") characterised the economy. The country needed western currency, and this brought with it more open relations with the West (Kaposi 2002, p. 387-388). Large crowds of western tourists, but also guests from the socialist countries arrived. The lake has become a meeting place for the dispersed German population. The foreign exchange revenues from Lake Balaton significantly improved the country's balance of payments: in the first half of the 1980s, almost one third of the tourism revenues of Hungary came from the Balaton tourist area, with the share of convertible currency being around 40% (Marton 2013, p. 170). In the 1980s, half of the guests, about 2.5 million, were foreigners (Rátz 1999, p. 71). Many hotels were built to primarily serve western tourists. The construction of hotels on the 'Golden Coast' in Siófok started in 1962 (Glázer 2021, p. 116-122). Modern small motels were built in Tihany, Keszthely and Siófok. The 'Zimmer Frei model' was built on western tourists, when it became a big business to rent out property by lakeside residents. Many of the owners have built up a returning audience year after year. The possibility of untaxed income was often behind the renting out of rooms: two or three months' rent provided a year-long living for many.

The infrastructure of Lake Balaton was underdeveloped, but there were one or two areas where progress was made. Traffic was improved by the construction of the Budapest-Zamárdi motorway between 1966 and 1975, as well as the rail transport, water and sewerage systems, etc. were developed. The public health situation also improved, and a hospital was built in Siófok. More and more boats were put into service, which needed ports and service units. The infrastructure of the beaches improved, the food supply on the lakeside was solved: by the 1970s Hungarian agriculture had the surplus to serve the millions of people. The consumption structure that evolved at this time still carries nostalgic elements. Beer, fried fish, scones, corn on the cob, goulash and pancakes were popular with both domestic and foreign guests. Consumption was catered for by revived taverns, restaurants and buffets. The involvement in catering improved the income position of many social groups: workers on extended summer holidays could earn a substantial income in a month or two. The development of cultural institutions (castles, fortresses, exhibitions, abbeys, etc.) also increased the tourism of Lake Balaton.

It can be seen that the Balaton Region has met the needs of domestic and foreign tourists in a very diverse way. In the 1980s, the number of visitors reached almost 5 million (Rátz 1999, p. 71). Social tourism, youth tourism, cultural tourism and commercial tourism were all present, with the latter becoming increasingly important (Gertig 1980, p. 410). However, due to mass tourism, there were many difficulties that were hard to manage: the relationship between accommodation capacity and visitor numbers, environmental protection and the water quality of the lake. Nevertheless, this did not affect its popularity. Growth was almost uninterrupted, but the changes in world politics around 1989-1990 brought major changes to the life of Lake Balaton.

4. THE ECONOMIC CONSEQUENCES OF THE HUNGARIAN REGIME CHANGE

Between 1989 and 1991, the socialist block in Central Europe underwent major political changes. The Soviet Union was economically weakened and could no longer maintain its former military and political empire. This gave the Central European countries the opportunity for independence. The orientation was clearly towards the free western world. During 1989 and 1990, a new state order was established in Hungary through democratic elections. The country was again able to run an independent economic policy. Independence was accompanied by the loss of markets in the Soviet and socialist countries, leading to many years of economic decline. The new direction of foreign trade was the European Union. Industrial and agricultural production fell enormously, some sectors had their output halved, and only the financial, educational and communication systems showed any improvement. Significant unemployment arose in the country and real incomes kept falling. However, the emergence of western capital was a sign of the future. In the early 1990s, the privatisation of state property began, taking former large companies into western hands. By the middle of the decade, large public utility systems (electricity, natural gas, etc.) were already foreign-owned (Kaposi 2020).

What has this meant for tourism? In the first half of the 1990s, domestic tourism declined. The most important thing for Lake Balaton was the decline in western tourists numbers, as the reunified Germany no created a demand for the lake as before. Fewer and fewer western visitors came to the country. Tourists from other former socialist countries, which had struggling economies too, were also missing from the "Hungarian sea". The fall in tourism limited the incomes of people living near the lake. Between 1989 and 1993, the number of nights spent in commercial accommodation fell from 7.2 million to 3.2 million, social tourism declined even more, and the volume of private accommodation fell by about 40% (Lengyel 1995; Probáld 1995). The previous holiday scheme has also changed. Large companies could no longer afford to provide holidays for their employees. Where holiday homes were left, there was usually no money for maintenance, and within a few years there were ran down. At the same time, privatisation increased the opportunities for some of the population to buy former holiday homes or apartments.

The so-called Local Government Act (Act LXV.tc. 1990) brought a significant change to the whole country, as from that time local communities could decide on the municipal and urban areas serving tourism. In many tourist areas of the country, a policy of "going forward" was chosen. This policy had several essential elements. One was the need to make major investments in infrastructure to make their own settlements attractive. Another was the use of EU funds, which had been available since the second half of the 1990s, to provide quality services. And do not forget the role of foreign capital in this area, as the big western hotel chains also appeared in the region. Lastly, after the country's economic stabilisation (1995-1997), there was substantial economic growth, with increased employment and improved living conditions, which created good opportunities for tourism.

5. THE MAIN TOURIST CHANGES IN THE BALATON REGION SINCE 1990

In the following, we present the milestones that have had the greatest impact on the tourism changes in the region. It is not possible to cover everything in this study, so we will focus on the most important transformations.

5.1. CHANGES IN THE POPULATION OF BALATON REGION AFTER 1990

The population of Hungary has been falling continuously since 1980, and the settlements of Lake Balaton have not been exempted from this. It is not possible to study the population of all the settlements along the shores of Lake Balaton, so we include in the research the coastal towns with more than 4,500 inhabitants and the villages with fewer than 4,500 inhabitants but more important for tourism. Thus, changes on the south coast are examined for Siófok, Fonyód, Balatonboglár and Balatonlelle, and on the north coast for Keszthely, Badacsonytomaj, Balatonalmádi, Balatonfüred, Balatonfűzfő and Tihany. (*Table 1*) It can be seen that the population of most of the settlements at Lake Balaton started to decrease after 1990, but in several cases it increased afterwards. According to the data of the last two censuses, the population increased in the surveyed localities with four exceptions (Balatonboglár, Balatonlelle, Keszthely, Siófok). The Balaton Region is one of the few regions where the population has increased on average over the last 11 years.

Table 1: Changes in the population of settlements between 1990 and 2023

	1990	2001	2011	2023	Changes (100% - 1990)	Changes (100% - 2011)
Badacsonytomaj	2547	2257	2135	2186	0.858265	1.023888
Balatonalmádi	8339	8055	8522	10226	1.226286	1.199953
Balatonboglár	6202	5928	5736	5628	0.907449	0.981172
Balatonfüred	13520	12956	12979	13258	0.980621	1.021496
Balatonfűzfő	4733	4271	4225	4537	0.958589	1.073846
Balatonlelle	4832	4935	5217	4946	1.023593	0.948054
Fonyód	5184	5055	4793	5209	1.004823	1.086793
Keszthely	22234	22388	20619	18563	0.834893	0.900286
Siófok	22627	22684	25045	24761	1.094312	0.98866
Tihany	1493	1452	1368	1370	0.917616	1.001462

Source: Own editing based on data from KSH (2023/b) and CityPopulation (2023)

It is significant that while the national population decreased between 2011 and 2022, the north-western part of Hungary and the agglomeration of Budapest, as well as the Balaton Region, showed an increase in population. However, if we look at the three decades since the regime change as a whole, we can see a declining population in the Balaton destination with a few exceptions (Balatonalmádi, Balatonlelle, Fonyód and Siófok) (KSH 2023/b).

5.2. INSTITUTIONAL DEVELOPMENTS

The mass tourism developed in the second half of the 20th century had a positive impact on the economic life of the region, but the same could not be said about the natural environment. In 1977, the MTA (Hungarian Academy of Sciences) issued an alert to avoid the greening of a large part of the lake, which would have made it unsuitable for bathing (Lengyel 1995). Recognising the problem, institutional organisation was initiated. As a first step, in 1979 the Selected Holiday Region of the Balaton was defined as a basis for future development and to protect water quality (Buday-Sántha 2007, p. 9). The Balaton Regional Council, established in 1993 by the government, local governments and other professional organisations, was responsible for the development of the defined area, the management of the infrastructural changes in the area, and the protection and preservation of the resort environment. However, the Council lacked the legal and financial background to work successfully and soon closed down. In 1996, the Balaton Tourism Marketing Plc. was established with similar aims, but after two years it also stopped functioning. In the same year, on the proposal of the Balaton Association, a state secretary was appointed to coordinate Balaton affairs, and the former Selected Holiday Region was demarcated as an independent development region under the law on spatial development and settlement at the time. The Balaton Development Council was set up to manage this strategically, and the Balaton Integration and Development Plc. was established in 2000 as the operational body (Buday-Sántha 2007, p. 171). It

can be seen that the intention was to manage the region as a unit, but this faced a number of difficulties. At that time, there were 164 settlements in the resort area, which belonged to 3 counties, 3 large regions and 14 small statistical regions (Buday-Sántha 2007, p. 10). In the following, let us look at the developments that have been achieved in the last 30 years under these circumstances and which have remained at the planned level.

5.3. UTILITIES, TRANSPORT AND BASIC INFRASTRUCTURE DEVELOPMENT

The development plan of 1993 was primarily aimed at saving the lake and the basic utility and infrastructure improvements for this purpose. It called for the construction of toilets and a sewage system on the shores. Unfortunately, even in 2023, the construction of new accommodations often cause problems in terms of adequate drainage of waste water on the lake shore. The strategy called for preventing the destruction of reed beds, stopping fish mortality and eliminating the introduction of non-native fish species into Lake Balaton as soon as possible. A proposal was made for a melioration programme, which made the protection of the water of the lake a priority. Little of the concept was put into practice until 1994. The construction of a sewerage system was started and the slurry pollution from livestock farms was reduced (Lengyel 1995).

In the development plan published in 2005, a new concept was formulated alongside the original objectives that had not yet been achieved. It reinforced the intention to extend the season, and added to and supported the need to be able to meet several demand needs at the same time. It made specific proposals to develop sailing, fishing, cycling and wine tourism. In the early 2000s, however, all the above-mentioned tourism products were still in need of development, because there was no cycle path around the lake and no network of cycle paths connecting the lake to the surrounding villages. Grape and wine culture, fishing and sailing can also attract large crowds to Lake Balaton in autumn and spring, but the necessary tourism infrastructure was not yet ready (Buday-Sántha 2007). The transport development strategy published in 2007 partly answered this gap by proposing the development of a regional transport association to overcome the lack of cooperation between the different transport modes. The development of rail, bus and water transport networks was emphasised. Timetables were extended and the number of connections between municipalities increased. All but two sections of the M7 motorway (Zamárdi-Balatonszárszó, Balatonkeresztúr-Nagykanizsa), the most important route for car traffic, were ready (F&B Consulting Bt. 2007). Work has started on the rehabilitation of the railways in the resort area. The modernisation and harmonisation of the railway and bus network and the development of intermodality affected many settlements. After 2015, the electrification and the development of the railway lines 29 and 30, the development of the passenger information system and the connection of the railway lines were completed (Balatoni Integrációs és Fejlesztési Ügynökség Közhasznú Nonprofit Kft. 2015). In 2017, construction began on the Kaposvár-Balatonszemes high-speed road, which has significantly improved access to the lake from the south of the country. The bus network has been given a dual role: it now provides connections to the hinterland areas in the radial direction, thus linking the settlements without railways into the Balaton bloodstream. A cycling intermodality has been established in the whole region with the construction of a cycle path around the lake. By the end of the 2010s, transport in the region had undergone significant improvements, with a reduction in travel times by rail and waterway.

During the period until 2020, the water quality of the lake has been restored, and the concept has replaced this ambition with a focus on sustainable development. Preserving the environmental and intangible values of the landscape was considered a priority, and the use of renewable energy sources was included. In the long term, the vision was to transform the resort area into a zero-emission region. It proposed the development of new tourism products in the Balaton Region compared with the previous strategy: the development of health and wellness tourism linked to the current megatrend was proposed, and the establishment of cultural and conference tourism to extend the season was also set as a goal (Balaton Fejlesztési Tanács 2014). The strategy currently in force for the period 2021-2027 has identified 9 priorities: water and infrastructure, nature conservation and climate protection, development of regional population retention capacity, economic

development, transport development, tourism development, agriculture and local products, health development, and regional cooperation (Balatoni Integrációs és Fejlesztési Ügynökség Közhasznú Nonprofit Kft. 2021). The main objectives of the plan also show that although many improvements have been made over 30 years, many problems still remain. In fact, the utility supply has improved, making the Balaton Region more accessible. In the case of tourism development, the priority remains to reduce seasonality, one tool of it is the development of accommodation, i.e. the expansion of the tourist offer with accommodation that can be used in the whole year and even be an attraction in itself, such as wellness hotels.

5.3.1. HOTEL OPENING, EXPANSION OF ACCOMMODATION

During the privatisation of the 1990s, the former holiday resorts of trade unions were bought and renovated, or were left to fall into disrepair. The majority of the accommodation was not fully equipped and most of it was only available during the summer months. As a first step in extending the season, which was already being formulated at the time, it was necessary to develop a range of accommodation in the region that would allow year-round guest numbers. As a result, three and four-star hotels have begun to spread in several municipalities over the past decades. The above-mentioned municipalities were also examined in terms of their accommodation offer.

	Balaton-almádi	Balaton-boglár	Balaton-füred	Balaton-fűzfő	Balaton-lelle	Badacsony-tomaj	Fonyód	Keszthely	Siófok	Tihany
Three-star hotels and apartment hotels	0	0	4	0	2	0	1	5	3	2
Four-star hotels and apartment hotels	1	0	6	0	0	1	0	3	10	2
Five-star hotels and apartment hotels	0	0	2	0	0	0	0	0	4	0

Figure 1: Number of three- and four-star hotels and apartment hotels in the municipalities
Source: Own editing based on Booking.com (2023)

Expanding on our earlier research (Wilhelm 2023, p. 104), this table shows the three-, four- and five-star hotels and apartment hotels in the surveyed municipalities (*Figure 1*). The filters were carried out in autumn and winter, but there were still some hotels that were only open in 1 or 2 off-season months, but most of them are open all year round. The "capitals" of the south and north coasts, Siófok and Balatonfüred, have the widest offer, even with 5-star hotels in these settlements. The figures show that quality accommodation development has taken off in the last 30 years. In addition to hotels, there has been a significant increase in the number of private accommodations, apartments and villas for rent (Booking.com 2023). We can say that the old company and holiday resorts of trade unions have been replaced by a series of hotels and other private accommodation. However, there are still a small number of lower standard accommodation facilities, and the spatial concentration of higher quality commercial accommodation is a striking problem, which means that the physical conditions for the temporal dispersion of guest flows are only present in a few settlements.

5.3.2. TRENDS IN THE VISITOR NUMBERS OF THE DESTINATION

Tourism is now clearly the main driver of the Balaton destination, but after the regime change there have been significant changes in the hospitality industry. While the share of international tourism in the number of nights spent in commercial accommodation reached 80% in 1990, it has steadily

decreased in the following years. In 2000 only 66%, in 2005 56% of tourism at Lake Balaton came from foreign tourists (Buday-Sántha 2007, p. 82).
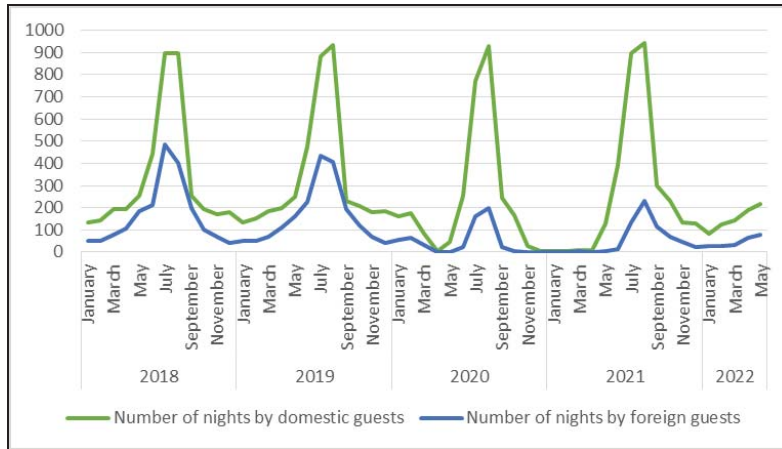

Figure 2: Number of foreign and domestic nights spent in commercial accommodation by month in the Balaton Region (nights, thousands)
Source: Own editing based on data from KSH (2022/a)

The falling trend has not changed today: in 2018, foreign nights accounted for a third of total demand in commercial accommodation, while in 2022 they accounted for a quarter (KSH 2022/a). Since 2020, foreign nights have been less than 50% of domestic demand (KSH 2022/b). The number of international nights increased in the first half of 2023, while domestic tourism decreased at Lake Balaton: with nearly 134,000 fewer nights spent in the region than in the first six months of 2022. This represented a 5.2% decrease in the first half of the year (KSH 2023/a). As mentioned earlier, the development plans of the 1990s had already drawn attention to the problem of seasonality, which is still a dominant feature of demand today, as the data in *Figure 2* shows (Wilhelm 2023, p. 99).
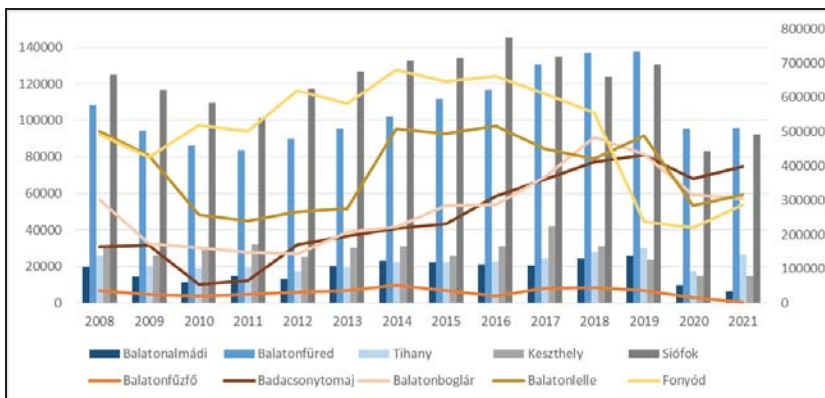

Figure 3: Number of nights in commercial accommodation in the examined cities (number of nights)

Source: Own editing based on data from KSH (2022/b)

Let's also look at the change in visitor numbers in the surveyed municipalities. The left-hand axis in *Figure 3* shows the tourism demand of the towns with lower traffic, shown in the line graph, while the right-hand axis shows the number of nights spent in the towns marked with bars. It can be seen

that after the economic crisis of 2008-2009, there was a decline in the number of nights spent by tourists in the region, but from 2011-12, the number of nights spent by tourists in the region increased again. In the late 2010s, a falling trend started again, especially from 2020 (COVID) (KSH 2022/b). It may be worth examining how the settlement-level data will develop in 2023. Can the number of nights increase again in the destination, as international travel has become free again, or will domestic tourism decline so much (because Hungarian tourists also prefer to travel abroad after years of lockdown) that the possible increase in foreign nights will not be able to make up for it? The data for the first half of this year, mentioned above, suggest the latter.

6. SUMMARY

After 1990, tourism at Lake Balaton changed significantly. After the environmental damage caused by mass tourism was repaired, infrastructure developments began to be carried out in the area, which made it possible to develop a new type of tourism. The accessibility of the destination and its internal transport have also improved considerably over the last three decades. Socialist campsites and low-quality accommodation have been replaced by modern private accommodation and 3, 4 or 5-star hotels in the region. In the future, the impact of new hotels on the labour market may also be worth examining: can big hotels alone attract a significant workforce and thus new residents to settlements? The development of the region is demonstrated by the fact that, according to the 2022 census, it is one of the few regions in the country where the population has increased. But on average, there are still fewer people living around the lake than at the time of the regime change. Further research could focus on how the structure of the labour force in the region has changed over the past 30 years, and whether there are any new key sectors that could increase the population of the region in the coming period. Furthermore, how the share of local permanent and foreign seasonal workers in the municipalities changes in each month? The number of foreign tourists has fallen and the total number of nights spent is also lower than in the years of mass tourism. Despite the improvements, there are still problems in the region that have persisted for decades and need to be solved, such as seasonality. In addition to long-standing problems, issues such as the current high inflation and its impact on Hungarian households and their discretionary income, including their willingness to travel, may also be worth exploring. Moreover, after several years of shutdown due to the Covid epidemic, can the absorption power of the Mediterranean be as great as it was during the regime change? Overall, in the future, it may be worth examining the factors that could lead to a decline in tourism demand in Lake Balaton today.

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"TWIN DEFICITS" AND THEIR CONSEQUENCES ON THE ECONOMY OF BOSNIA AND HERZEGOVINA

Abstract

In the past few years, Bosnia and Herzegovina has faced the problems of "twin deficits", which represent the simultaneous occurrence of budget and foreign trade deficits. Despite a significant number of scientific and empirical studies of the parallel occurrence of these two phenomena, there is no clear and unified theoretical position in macroeconomics as to why they occur simultaneously. Their basic characteristic is that they greatly reduce the potential of sustainable economic development. In the short term, they lead to unjustified indebtedness of the country, and such a situation is directly reflected in the growth of interest rates, inflation, falling standards of the population, etc. The long-term consequences of the "twin deficit" are multi-year unfair intergenerational borrowing, because inefficient economic policies not only affect existing generations, but also those to come, leaving them with the burden of repaying loans that were created when they were not even born. In the case when borrowing has an investment character, then transferring the debt burden to future generations can be justified, but very often this is not the case. When it comes to Bosnia and Herzegovina, this country has been facing a series of economic problems since the end of the war destruction, and insufficient competitiveness of the BiH economy and excessive liberalization lead to large and continuous deficits in trade in goods, while on the other hand, high state spending and problems in public finances result in several years of fiscal imbalances, which ultimately endangers the country's international liquidity and macroeconomic stability. The subject of research in this paper is the analysis of the "twin deficit" and the impact of these two macroeconomic categories on the development of Bosnia and Herzegovina. Considering the multi-year imbalances in state revenues and expenditures, as well as imports and exports, the paper aims to investigate the mutual correlation of budget deficits and foreign trade deficits and their reflection on the macroeconomic position and development of Bosnia and Herzegovina. The paper concludes through an empirical analysis of these macroeconomic categories that the simultaneous occurrence of "twin deficits" had a significant negative impact on the economic development of Bosnia and Herzegovina and that all governments facing this problem, as well as Bosnia and Herzegovina, must seriously approach the solution of all its fiscal and foreign trade imbalances and encourage economic measures that go in the direction of strengthening competitiveness, attracting foreign investments, developing domestic production and increasing exports, rationalizing state spending and increasing income at all levels, which will directly affect the reduction of fiscal imbalances and deficits of foreign trade exchanges.

Keywords: twin deficits, fiscal deficit, foreign trade deficit, development, Bosnia and Herzegovina

JEL: H6, H62, 024, F63

1. INTRODUCTION

Budget deficits represent an excess of expenditures over revenues of a given country. When state expenditures exceed state revenues, a budget deficit is created, which must be financed either through the issuance of money, or through taxes, or through additional borrowing. The foreign trade deficit represents the excess of imports over exports and it arises in the case of foreign trade imbalances of a certain country. In economic science, and very often in other sciences as well, certain symbolic names or figurative expressions are used, which aim to explain a phenomenon in economics more clearly. Such, for example, is the term "twin deficits", which represent the simultaneous occurrence of deficits in the already mentioned economic categories of budget deficit and foreign trade deficit. This phenomenon has been characteristic of Bosnia and Herzegovina for many years. With the advent of crises, the problem of "twin deficits" becomes even more

pronounced, and those countries where the budget deficit is a long-term phenomenon and which do not have enough domestic savings to finance excessive state spending are in a more difficult situation. Due to the frequent occurrence of crises in the world, this phenomenon is being talked about more and more, and the problem it causes deserves to be further researched on this topic.

2. THEORETICAL POSITIONS AND THE CONNECTION BETWEEN "TWIN DEFICITS"

Given that the budget deficit is a residual quantity as the difference between total revenues and total expenditures, it is very difficult to determine its clear implication on some other economic quantities, ie the economy as a whole.[21] This is especially important from the point of view of the emergence of deficits as a consequence of tax reductions or increases in public spending. For this reason, the impact of the deficit on the economy must be viewed from the perspective of the specific fiscal policy and the measures on which it is based.

When studying the connection between the deficit and any other macroeconomic quantity, the starting point is usually the so-called *conventional theory* and fundamental macroeconomic identities (Švaljek, 1999, 166-167). According to the conventional theory, all effects stem from a single initial effect, which is the reduction of national savings. Since national savings is equal to the sum of private and public savings, in the event of a deficit, public savings becomes negative. Negative national savings leads to a fall in investment and/or a fall in net exports. These consequences are further explained by the effect of interest rates and the exchange rate.[22] The conventional aspect of observing the effect of the deficit on economic growth observes only the current effect and in the short term, assuming that the long-term effects are derived as a cumulative short-term effect.

Although there is no mechanism in economic theory that would directly connect the deficit with economic growth, one could still find a number of reasons why the deficit could indirectly have an adverse effect on economic growth.

The basic channels through which the negative effects of deficit and debt on economic growth arise are:

- crowding out private investments;
- crowding out exports;
- increase in the share of interest expenses in total state spending;
- debt servicing that reduces the chances of growth;
- financial instability.[23]

The budget deficit is the main indicator of the state of fiscal policy, which has multiple implications for the macroeconomic position of the country. In order to be able to finance deficits and service all due obligations without problems, funds that are regularly collected through public revenues or borrowing must be efficiently used and invested so that economic growth rates in the long term are higher than borrowing interest rates. If the debt funds are invested in unprofitable projects and current consumption, there will be a growing gap between government revenues and expenditures and the reappearance of deficits. Expenditures will continue to rise, because, among other things,

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[21] As well as all other residual quantities.
[22] National saving is equal to the sum of investments and net exports.
[23] There is a large number of studies on each of these effects, which goes beyond the scope of this research.

interest on borrowed funds will also rise. So, if the country is constantly in debt, and these funds are not invested in economic activities that have a return on the invested funds, there will be no growth in GDP, no growth in tax revenues, exports, and in that situation, one will enter a "vortex of indebtedness". Such a situation will create new problems, undermine the stability of public finances and seriously threaten fiscal sustainability.

Foreign trade occupies a particularly important place of research in economics. The modern theory of foreign trade was created as a result of the development of economic thought through the ages, and the first great economists such as Adam Smith, David Hume and David Ricardo dealt with this issue through the theories of the international economy. This is explained by the fact that international exchange was and remains one of the most important economic activities.

Foreign trade deficit represents a negative difference between what a country exports abroad and what that same country imports from other countries. It represents one of the most important indicators of foreign trade and economic relations with foreign countries. It occurs when the country imports more goods and services than it is able to export. It is considered to be a negative economic phenomenon, because it represents a situation in which the economy of a certain country is unable to produce what it needs on its own, and this negative phenomenon is ultimately a source of major macroeconomic imbalances in the short and long term. As a term in economics, it differs from the external deficit that comes from the balance of payments when the income from other countries is less than the costs incurred in those same countries. In addition to imbalances in exports and imports, there are other and more complex reasons for which a foreign trade deficit occurs, and the cause of this can be the exchange rate that makes one and the same product more competitive, then production capacities and purchasing power, productivity, etc.

Economic literature, despite numerous researches, still does not offer a single answer or theory to what is the direct connection between these two deficits and what are the consequences of their long-term existence, and the mentioned question is often considered through the theory of budget constraints, but also many other theories. The existence of a "twin deficit" always means that consumption in a country is greater than its production and that investments are greater than savings. From this problem, the problem of financing arises, which is correlated with the problem of using funds that are a consequence of these deficits.

2.1. THE IMPACT OF THE "TWIN DEFICIT" ON ECONOMIC GROWTH AND DEVELOPMENT

Economic science gives us a large number of definitions of economic development. Many of them have some common elements, and on the other hand, there is a significant number of authors who give diametrically different definitions of development. Economic development is a process in which the real national income increases in the long term, which, with a higher growth rate of the real national income than the increase in the number of inhabitants, means an increase in the national income per capita (Vilogorac, 2000, 350). This definition can be questioned when the growth of income per capita results from a decrease in the population that occurs, for example, due to a decrease in natural growth or migration due to certain economic or political crises in the country. Another definition says that it is the process by which low-income national economies are transformed into modern, middle-, upper-, and high-income industrial economies. Economic development is therefore the development of the wealth of countries, or regions or urban or rural areas for the benefit of their inhabitants, and a sustainable increase in the standard of living that suggests an increase in income per inhabitant, better education and better environmental protection (Osmanković, 2007, 111).

Development as an economic category implies various activities of individuals and business entities that are undertaken in society, resulting in the creation of material and other values that satisfy the numerous needs of individuals and society in general (Begić, 2000). In economic theories of development, it is very important to make a clear distinction between the concept of economic growth and economic development. Economic growth is a narrower category than economic development and it is one of the components of economic development. It is only one part of it and symbolizes its quantitative dimension. Economic development, in addition to the growth of production at the level of a national economy, also implies a number of other structural changes in the field of the country's institutions, technical and technological capacity, educational capacity, etc.

Economic growth includes an increase in production in relation to the number of its inhabitants over a longer period of time. In a shorter period of time, this growth is called economic expansion. Numerous authors have conducted various analyzes of the impact of many macroeconomic categories on growth and development, such as deficits (both budget deficit and foreign trade deficit), but also many other indicators. Basically, all theoretical starting points about the relationship between debt/debts and development are based on the view that if debt is used in those areas that will contribute to development, it is not a problem. But if the funds secured through borrowing are channeled into current consumption, unprofitable investment projects and non-developmental components, then negative effects occur. Only that indebtedness that has a development component will lead to positive macroeconomic reflections and improvement of macroeconomic indicators, such as exports, investments and capital investments, so in that case there will be increased exports and improvement of other indicators of foreign trade.

On the other hand, when it comes to the foreign trade deficit, it is clear that its occurrence directly indicates negative tendencies in the movement of economic growth and development, because the decrease in exports and increase in imports is the result of insufficient domestic economic activities, where the needs of the population must be replaced from abroad by importing missing goods and services. Understanding this relationship, one should go in the direction of an economic policy that will increase export activities, the competitiveness of domestic production, which will ultimately have positive reflections on economic growth and development.

3. BUDGET POSITION AND TRADE BALANCE OF BOSNIA AND HERZEGOVINA

In the last few years, Bosnia and Herzegovina belonged to the group of countries where the budget deficit was almost a chronic phenomenon financed from foreign sources. The chain of budget imbalances was interrupted in certain periods, most often after crises and after multiple measures of restrictive fiscal policy. Due to the extreme complexity of the fiscal architecture of Bosnia and Herzegovina and the huge state spending, the only surplus institutional sector in Bosnia and Herzegovina is the population itself, as opposed to the government and companies. Total deposits in banks grew every year. The population and private companies account for over 90% of total deposits, and the population as the most important part of the non-governmental sector accounts for over 60%.[24] Although the population achieves significant savings, this does not directly contribute to economic growth. On the other hand, this sector normally has the role of transferring available savings for productive purposes, which is not the case in Bosnia and Herzegovina, because the largest part of the banking sector is privately owned, where the capital owners are not citizens of Bosnia and Herzegovina and where all profits flow out of the country.

These reasons to a certain extent explain the situation of double deficits, which, although interrupted in certain years, is not a sign of the country's recovery, because the height of the trade deficit and other negative macroeconomic indicators did not lead to positive economic trends. In

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[24] Data taken from the website of the Central Bank of BiH (from the section of data on the banking sector).

addition to this, other reasons for the existence of "double deficits" are inadequate production capacities of the country, poor competitive position and irrational state spending at all levels of government, which is financed exclusively through external debt with high risks and growth tendencies.

In addition to multi-year macroeconomic imbalances, which are the result of the wrong macroeconomic policy of the country, the existence of "twin deficits" also results in the growth of indebtedness, which created additional problems for Bosnia and Herzegovina, and which arose from other factors that Bosnia and Herzegovina could not influence, such as are external factors (bad credit rating, high interest rates, financial and political instability in the environment, etc.). The following table and graphic show the trend of the budget balance and trade balance for the period from 2005 to 2022. The data are presented as a percentage of GDP and in millions of KM.

Table 1: Movement of the budget balance and trade balance in the period from 2005 to 2022.

Period	Budget balance (in % of GDP)	Trade balance (in % of GDP)
2005	2,3	-43,9
2006	2,7	-33,2
2007	1,1	-37,6
2008	-2,1	-41,1
2009	-4,3	-30,0
2010	-2,4	-28,3
2011	-1,2	-29,8
2012	-2,0	-29,7
2013	-2,2	-26,5
2014	-2,0	-28,8
2015	0,7	-24,8
2016	1,2	-23,4
2017	2,5	-23,3
2018	2,2	-22,5
2019	1,9	-22,3
2020	-5,2	-18,0
2021	-0,3	-18,3
2022	-0,4	-22,1

Source: Central Bank of Bosnia and Herzegovina, (accessed on October 28, 2023)

Graph 1: Budget balance and trade balance in % of GDP (2005-2022)
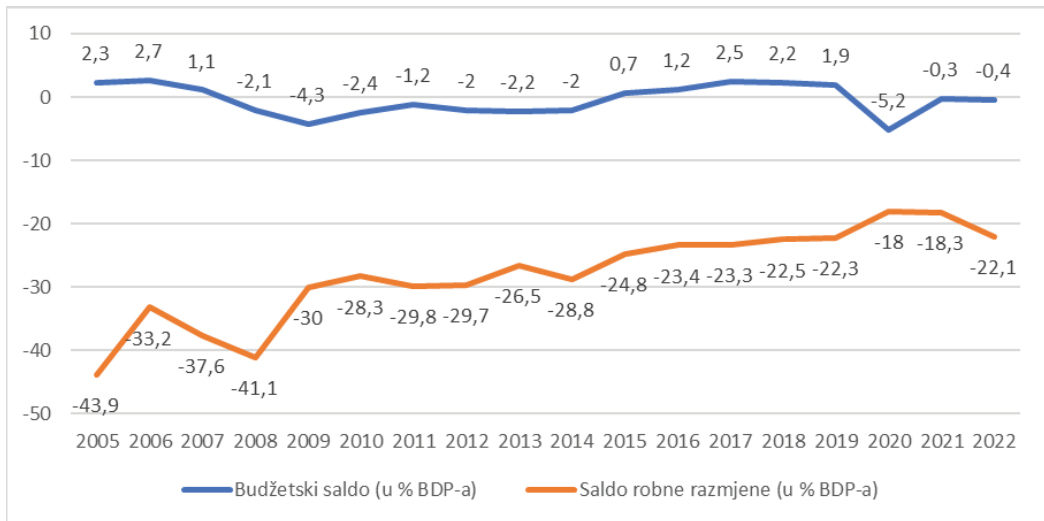
Source: Central Bank of Bosnia and Herzegovina, (accessed on October 28, 2023)

Table 2: Budget balance and trade balance for the period from 2005 to 2022 (in million KM)

Year	**Budget balance (in million KM)**	**Trade balance (in million KM)**
2005	411	-7.748,7
2006	551	-6.661,0
2007	258	-8.479,8
2008	-540	-10.471,6
2009	-1.071	-7.436,3
2010	-612	-7.186,4
2011	-323	-7.826,9
2012	-527	-7.778,5
2013	-580	-7.098,8
2014	-556	-7.873,7
2015	203	-7.175,7
2016	375	-7.089,2
2017	806	-7.416,9
2018	737	-7.521,2
2019	677	-7.963,0

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[25] The blue line indicates the Budget balance (in % of GDP), and the orange line indicates the Trade Balance (in % of GDP).

2020	-1.809	-6.267,5
2021	-111	-7.170,1
2022	-183	-10.094,9

Source: Central Bank of Bosnia and Herzegovina, (accessed on October 28, 2023

Graph 2: Budget balance and trade balance in million KM (2005-2022)
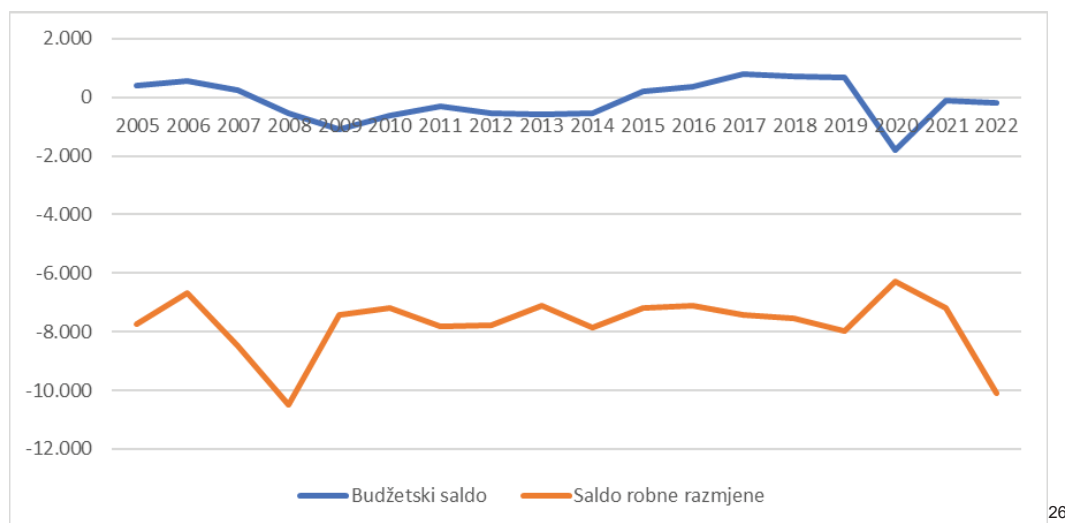
Source: Central Bank of Bosnia and Herzegovina, (accessed on October 28, 2023)

The data presented in tabular and graphic displays indicate multi-year negative trends in the movement of the overall budget position of Bosnia and Herzegovina, along with even more unfavorable trends in foreign trade. Observed in the period from 2005 to 2022, it is especially noticeable that this came to the fore in periods of economic crises, such as the debt crisis of 2009 (budget deficit as much as 4.3% of GDP, trade deficit 41% in 2008 and 30% in 2009), as well as in the period when the economic crisis occurred in the whole world due to the corona virus. In that period, the budget deficit reached a record amount of over 5.3% of GDP, while the trade deficit decreased, due to the reduction in economic activities, but also all the restrictions that led to a decrease in both imports and exports.

4. CONCLUSION

The problem of "double deficits" became actual with the frequent recurrence of crises that characterized the world in the last twenty years. This problem does not bypass Bosnia and Herzegovina as a developing economy, which after huge war destruction and with a complex political and economic system is facing large macroeconomic imbalances and constant insufficient economic growth. Such a situation created a pronounced dependence on imports and huge government expenditures that resulted in a constant current account deficit, a trade deficit, but in most years also a fiscal deficit. A particularly pronounced problem is the size of the trade deficit, which since 2005 has averaged 30% of GDP, and in some years reached up to 40% of GDP. This level is extremely high and is characteristic only for countries that face large imbalances in foreign trade. The continuous realization of the current account deficit and the foreign trade trade deficit

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[26] The blue line indicates the Budget Balance, and the orange the Trade Balance.

spills over into other economic problems through the multiplier effect. Lower exports than imports lead to a lack of funds for debt repayment, to the weakening of domestic economic capacities, less government revenues and the continuation of a "vicious circle" of weakening the macroeconomic and fiscal position of the country. For this purpose, all governments facing the problem of "twin deficits" (including Bosnia and Herzegovina) must seriously approach the resolution of all their fiscal and foreign trade imbalances and encourage economic measures that go in the direction of strengthening competitiveness, attracting foreign investments, development domestic production and increase in exports, as well as rationalization of state spending and income growth at all levels, which will directly affect the reduction of fiscal imbalances and foreign trade deficit.

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QUANTITATIVE ECONOMICS/
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IMPACT OF PUBLIC URBAN AND SUBURBAN TRANSPORT QUALITY SERVICE CHARACTERISTICS ON PASSENGER SATISFACTION IN TUZLA CANTON

ABSTRACT

Having in mind the growing influx of people into urban areas, the cities themselves are working harder to develop a transport strategy to make life in these areas sustainable. Public urban and suburban transport and its quality has become a significant factor in market competition. The subject matter of the research is the quality of public urban and suburban transport services as a determinant of user satisfaction in the area of Tuzla Canton in the Federation of Bosnia and Herzegovina. Data collection was performed on the basis of convenience sample, with 200 responses collected. Users of public urban and suburban transport services in this study were interviewed at bus stations in Tuzla Canton. By multiple simultaneous regression analysis, the main predictors that determine the level of passenger satisfaction in Tuzla Canton were defined. Therefore, the aim of the research is to examine the impact of the quality of transport services on the level of passenger satisfaction in Tuzla Canton. Based on the results of empirical research, five characteristics of the quality of public urban and suburban transport services statistically significantly determine the level of passenger satisfaction in Tuzla Canton, namely: comfort, reliability, safety, accessibility and passenger care, while the other three characteristics: availability, frequency and environment do not significantly determine passenger satisfaction. Overall, this study provides the methodology developed to assess passenger satisfaction with public transport for the respective area.

Keywords: service quality, customer satisfaction, public urban and suburban transport, regression model

JEL: R41, O18

INTRODUCTION

The quality of passenger transport service is a crucial factor for passenger transportation companies while providing services. From the logistical view, the quality of passenger transport can vary according to the timetable and frequency, speed and number of stops, vehicle characteristics, comfort and capacity, tariffs, additional services in the vehicle and the like (Brčić & Ševrović, 2012). The quality of public urban and suburban transport is a management system that ensures the achievement and maintenance of the desired level of quality, therefore increases flexibility,

efficiency and effectiveness of the business. In this context, the quality management system can contribute to the optimization and development of the transport organizations in general (Funda, 2010).

In today's business environment where service provision takes an increasing market share, passenger satisfaction is becoming a significant factor of the market survival. In a setting of a public transport, the passenger appears as the user, ie as the main quality factor to which everything else is subordinated. The degree as well as a manner of meeting its requirements and needs are a good indicators of the transport service quality (Šolman, 2012). Maximizing customer satisfaction is the basic goal of any company that strives for long-term and sustainable business success. In this research, passengers are the main points of interest as they determine the perceived quality of transport services.

Through this analysis it is necessary to determine the existing state of quality in public urban and suburban passenger transportation. This is why it is necessary for carriers to create new strategies so they can satisfy, or provide an appropriate level of service quality to users. All of the above justifies the importance of assessing passenger satisfaction with public transport in Tuzla Canton. It is necessary to conduct research as well as to collect all available data and investigate the effects on passengers´ satisfaction, but also what determines their dissatisfaction. In this regard, the results of such research can serve as a basis for the design of attractive and efficient public urban and suburban transportation networks.

Life in urban areas cannot even be imagined without a public transport system. The difference between regular urban and suburban passenger transport in road traffic is in the significantly smaller size and dynamics of passenger demand on suburban lines. It arises from the size of the cities themselves and the suburban settlements that gravitate to them. The basic technological element of the difference is in the frequency of departures (Reisman, 2017).

This research can significantly contribute to the improvement of public passenger transport in Tuzla Canton. It will identify key areas where action should be taken in order to contribute to more efficient, economical and environmentally friendly public transport. The central research question arises from the previous findings, namely: to what extent does the quality of public urban and suburban transport services determine passenger satisfaction in the area of Tuzla Canton? Therefore, the research hypothesis tested in this paper reads as follows: "*The quality of urban and suburban public transport services significantly determines the level of passenger satisfaction in the area of Tuzla Canton*".

In order to test the postulated research hypothesis, passengers are surveyed using a well-structured questionnaire. The parameters of the model of simultaneous multiple regression analysis and the necessary beta coefficients were calculated for this purpose. Based on the research results, certain policy implications are discussed. Besides the Introduction part, the paper is organized as follows: The second section will provide the literature review of previous research, the third section describes research methodology. The fourth section reports the results of the research, while in fifth part we discuss. The paper ends with concluding considerations.

PREVIOUS RESEARCH

Measuring the quality of public services around the world has attracted a great interest not only by their users but also from legislators, managers, governmental and non-governmental organizations, national and international institutions, entrepreneurs and academics. On the other hand, the different approach while measuring customer satisfaction, makes this research even more interesting and significant.

With a comprehensive literature review, it is possible to see that the quality of public transport services in is measured using a larger or smaller number of dimensions or aspects (attributes, criteria) of quality. In a study conducted in Novi Sad (Serbia), authors Gladović & Simeunović (2010), identified the following rank for the desired quality of transport service for passengers: (1) Timetable; (2) Personnel; (3) Vehicles; (4) Network of transport lines; (5) The price of services and (6) Information. Radnović, Miloš-Marić, Radnović, Ilić & Lukač (2015) have determined the level of passenger satisfaction with public transport services in order to make better marketing decisions based on the example of the City of Belgrade (Serbia). The existence of the significant influence of factors on passenger satisfaction was investigated. Empirical research has shown that there is a significant correlation between these factors and passenger satisfaction with public transport services. The analysis of the quality of traffic service in public road transport was conducted by Bubalo, Rajsman & Škorput (2022) on the intercity passenger line Zagreb (Croatia) to Stuttgart (Germany). According to the authors, an effective method of assessing the quality of transport services would help with quality judgement of transport services and evaluating the competitiveness of bus carriers. A multi-criteria model for assessing the quality of transport services by the method of measuring passenger satisfaction has been proposed.

The research conducted by Stopka, Šimková and Konečny (2015) singled out the most important criteria of the quality of public transport services such as: connectivity with other lines, cleanliness and compliance with the timetable. Results report as less important criteria the following ones: criteria of accuracy, number of lines, distance of viewpoints, information and personnel. As the least important criteria users rated safety, comfort and environmental impact. According to Mouwen (2015) the three most important attributes for users of public transport services are identified: service delivered in time, travel speed and frequency of service, followed by personnel/driver behavior and vehicle cleanliness. The author emphasizes that the transport company's policy, aimed at achieving these attributes can contribute to a higher degree of user satisfaction. Authors Chan, Ibrahim, Lo, Suaidi & Ha (2021) concluded that there is a correlation between accessibility and safety on the one hand, and customer satisfaction on the other hand. As constructs in research they used accessibility, availability, reliability, comfort and safety of public transport services, customer satisfaction and loyalty. Having in mind the confirmed positive connection between satisfaction and loyalty, the authors emphasize accessibility and safety as the most important determinants to create loyal users. Authors Khurshid, Naeem, Ejaz, Mukhtar & Batool (2012) pointed out numerous irregularities in the functioning of public transport in Pakistan compared to other more developed countries. The research hypothesis was confirmed, that a higher level of quality of public transport service results in greater user satisfaction. Hasan, Whyte & Jassmi (2021) confirmed the positive impact of customer satisfaction on public transport and the negative impact on using their own transport. According to authors, perceived value determines the satisfaction of public transport service users. Conducting a survey among public transport users in Larissa (Greece), Kostakis & Ipsilandis (2009) included the following criteria for public transport services: (1) services (with sub-criteria of ticket prices, staff service - bus driver behavior, information, bus service - comfort, cleanliness and air conditioning, off-bus service - bus station layout and safety); (2) access (with sub-criteria access to bus stops and tickets); (3) availability (with sub-criteria network coverage, line connectivity, line frequency, line operating hours and bus station frequency); (4) time (with sub-criteria waiting time and travel duration), and (5) environment (with sub-criteria bus aesthetics and environmental pollution). These criteria are presented for all eleven public transport lines. Criterion „time", with sub-criterion „waiting time" and „availability" with sub-criteria „line frequency" were identified as critical points that require additional activities taken by the company's management in order to improve them. Criterion of „service" with sub-criteria „safety", „helpfulness of staff - bus drivers" and „bus services – comfort", „cleanliness and air conditioning" were identified as the strengths of the company and rated the highest by the users. Authors He, Yang & Li (2021) point to the necessary orientation of public transport companies management

towards "trapped users" as a target group that needs to be maintained. On the one hand it should be done by improving the travel experience of passengers currently using public transport, and on the other hand by increasing certain attributes of service quality such as solving problems of bus crowds as well as ensuring stability of transport lines.

Khudhair, Alsadik & Jameel (2021) by surveying students and academic staff in Baghdad as the target group of research, emphasized the importance of using public transport in solving traffic congestion, air pollution, fuel consumption and other environmental problems. Authors presented the results of the research through the following key conclusions: the key reason why users choose to use private transport is the waiting time for public transport; low price of a public transport ticket is a criterion that more than half of users consider a positive point of using public transport; comfort in terms of bus service, cleanliness and availability of seating is considered by about a third of users to be an important indicator of the quality of public transport services. This is followed by the number and location of bus stops; the criteria of quality of public transport service that are of the greatest importance for users belong to the attributes that can be reduced to safety, access, bus lines and comfort; while the highest perceived quality was recorded within the safety criteria. Ung (2019) emphasizes safety and efficiency, safety, empathy, culture and tangibility as five dimensions that have a significant and positive impact on the overall users satisfaction with public transport services. Based on the conducted empirical research and the presented assumptions of public transport in Vienna (Austria), the authors Golob, Škorić & Golob (2017) concluded that the city of Vienna has achieved satisfaction of its users with good traffic organization, timely improvements and conscientious execution of all requirements. A well-organized public transport system has been achieved through the efficient operation of the transport company and good communication between users and service providers. Authors Islam, Chowdhury, Sarker & Ahmed (2014) found out that the independent variable (attributes of public transportation services: service, access, availability, time, and environment) of a study conducted in Sintok City, Kedah Province (Malaysia) explains 26.9 % variance of the dependent variable (customer satisfaction). Safety, personnel courtesy and bus service are identified as the criteria with the highest customer satisfaction. While investigating the users satisfaction of urban and suburban passenger transport services in Kragujevac (Serbia), Rajković & Vasiljević (2020) singled out the highest and lowest ratings of quality perception of public transport users. With the highest marks were given the following: property of safety and security, accuracy and regularity, the competence of the personnel and reliability. Lazarević & Pitka (2020) performed a comparative analysis of the public passenger transport system in Novi Sad, Niš and Kragujevac (Serbia) while analyzing the transport offer and transport requirements of public urban passenger transport in these three cities. The authors pointed out certain shortcomings and proposed measures to improve public passenger transport. Well established network of public passenger transport is one of the basic prerequisites for general development and good quality of life. The systematic approach to the research of quality characteristics contributes to development of methodology to assess passenger satisfaction with public transport. In order to investigate the main predictors that determine the level of passenger satisfaction in Tuzla Canton, the empirical research was conducted.

RESEARCH METHODOLOGY

Considering the previous research overview, in order to meet the general goal of research and previously postulated hypothesis, the dependent and independent variables were identified. It was set that the independent variable is the quality characteristics of public urban and suburban transport, with identified indicators of the independent variable (availability, frequency, accessibility, passenger care, reliability, comfort, safety, environment). Passenger satisfaction is the dependent variable. Dependent variable is measured by price, information on public transport - timetable, regular ticket purchase, travel speed, discounts, "smart card" - electronic payment

system, weekend service offer. The mentioned indicators are measured by the scale of perceptions of users of urban and suburban public transport services.

Empirical research was conducted on the basis of the application of professional and scientific methods of both internal and external research. Within the internal research, the available secondary sources of data and information were processed. Within the external research, data were collected using the survey technique to examine the attitudes of respondents about the quality of services and satisfaction of passengers of public urban and suburban transport in Tuzla Canton. The questionnaire consisted of three parts and a total of 93 questions. In the first part, the questions related to the socio-demographic characteristics of the respondents, where 6 questions were defined, as follows: gender, age, completed level of formal education, occupation, the way they pay for transport and how far they walk to the starting point. The second part of the questionnaire referred to the evaluation of the characteristics of public urban and suburban transport services, where the questions were grouped into 8 question categories. A total of 53 questions were defined in this part of the questionnaire, divided into groups that related to the indicators of the independent variable, i.e. "availability" with 9 questions, "frequency" with 4 questions, "accessibility" with 7 questions, "passenger care" with 7 questions, "reliability" with 5 questions, "comfort" with 9 questions, "security" with 8 questions and "environment" with 4 questions. The third part of the questionnaire was about evaluating the level of passenger satisfaction, where the questions were grouped into 7 question categories. In total, 34 questions were defined in this part of the questionnaire, divided into groups that related to indicators of the dependent variable, i.e. "price" with 4 questions, "information about public transport" with 7 questions, "regular purchase of tickets" with 5 questions, " speed of travel" with 4 questions, "discounts" with 5 questions, "smart card - electronic billing system" with 4 questions and "weekend service offer" with 5 questions. In the second and third part of the questionnaire, respondents evaluated the characteristics of public urban and suburban transport services in the area of Tuzla Canton and the level of satisfaction with these services, using a five-point Likert scale, where 1 - completely disagree, 2 - partially disagree, 3 – both agree and disagree, 4 – partially agree and 5 – completely agree.

The empirical research was conducted on a sample of 200 respondents. It should be emphasized that public transport, ie transport service is intended for all citizens, and is available by purchasing a transport ticket. Data collection was performed on the basis of a convenience sample. The research was conducted within the period from June to December 2021. Users of public urban and suburban transport services in this study were surveyed at bus stations in the Tuzla Canton on several local and cantonal lines based on their availability. When testing the research hypothesis, the following statistical methods were used: descriptive statistical analysis, analysis of variance (ANOVA) and simultaneous multiple regression analysis. The statistical software package for social sciences SPSS, version 24.0 was used for data processing.

RESULTS

In order to test the research hypothesis, the parameters are calculated for the model of simultaneous multiple regression analysis as well as the necessary beta coefficients. The results are shown in Table 1.

Table 1. Model of simultaneous multiple regression analysis for the dependent variable satisfaction of users of public urban and suburban transport services

Model	R (multiple linear correlation coefficient)	R Square	Adjusted R Square (Adjusted Coefficient of Determination)	Std. Error of the Estimate
1	.824[a]	.679	.665	.30036

Source: *According to the author's research*

The table shows that the coefficient of multiple linear correlation is 0.824, which suggests that there is a very strong positive linear relationship between the observed variables. Based on the parameters in the model, it can be concluded that the coefficient of determination R^2 is 0.679, which means that the selected model of simultaneous multiple regression analysis interpreted 67.90% of all deviations, which implies the conclusion that the model is very representative. Statistically speaking, it shows the percentage of variability of the dependent variable explained by the variability of independent variables. Thus, the characteristics of public urban and suburban transport services explain 67.90% of the variance of the dependent variable.

By deploying the analysis of variance as shown in Table 2, the presented model of simultaneous multiple regression analysis can be found as statistically significant, since the level of significance is less than 0.05 ($p \approx 0$); F = 50,413. Thus, the model is suitable for further data processing.

Table 2. ANOVA- Analysis of Variance of the Model of Simultaneous Multiple Regression Analysis

Model	Sum of Squares	df / Degrees of Freedom	Mean Square	F ratio	Sig. / empirical level of significance)
Regression (interpreted by model)	36.384	8	4.548	50.413	.000[b]
Residual (unexplained residual deviations)	17.231	191	.090		
Total	53.616	199			

a. Dependent Variable: Passenger satisfaction

b. Predictors: (Constant), environment, reliability, accessibility, passenger care, use of transport by respondents, availability, comfort, safety

Source: *According to the author's research*

Furthermore, in order to take the most important step in relationship testing and impact testing, in the next step a simultaneous multiple regression analysis is conducted, and the necessary beta coefficients are calculated, which showed the importance of each independent variable in predicting or influencing the dependent variable and the extent to which all independent variables combined explain the variations of the dependent variable. The results obtained are shown in the table 3 below.

Table 3. Evaluation of the independent variable in the model of simultaneous multiple regression analysis - coefficients

Model	Non-standardized coefficients		Standardized coefficients	t-test	Sig.
	B	Std. Error	Beta		
(Constant)	1.050	.148		7.071	.000
Availability	.016	.052	.019	.309	.758
Frequency	.009	.028	.018	.331	.741
Accessibility	.130	.042	**.186**	3.085	**.001**
Passenger care	.112	.037	**.169**	3.064	**.002**
Reliability	.189	.037	**.286**	5.174	**.000**
Comfort	.201	.044	**.312**	4.545	**.000**
Security	.135	.042	**.191**	3.214	**.001**
Environment	.044	.043	.074	1.019	.310

Source: *According to the author's research*

Observing the level of significance from the previous table, it can be stated that five characteristics of the quality of public urban and suburban transport services statistically significantly determine the level of passenger satisfaction in the Tuzla Canton. Based on the presented standardized beta coefficients, it can be concluded that the highest beta coefficient is 0.312, which is actually the value for the variable "comfort". This variable individually contributes the most to the explanation of the dependent variable "passenger satisfaction", followed by the variables "reliability", with a beta coefficient of 0.286, then "security" with a beta coefficient of 0.191, "accessibility" with a beta coefficient of 0.186, and "passenger care" whose beta coefficient is 0.169.

In addition to the above explanations, the following conclusions are:
- The most important of all the characteristics of the quality of public urban and suburban transport services is comfort ($\beta = 0.312$; $t = 4.545$; $p < 0.05$).
- Important predictors are certainly variables: reliability ($\beta = 0.286$; $t = 5.174$; $p < 0.05$), security ($\beta = 0.191$; $t = 3.214$; $p < 0.05$), accessibility ($\beta = 0.186$; $t = 3.085$ ($p < 0.05$), and passenger care ($\beta = 0.169$; $t = 3.064$; $p < 0.05$).
- Independent variables availability, frequency and environment are not significant predictors in determining the level of passenger satisfaction in Tuzla Canton ($p > 0.05$).
- B weight values are positive for all quality characteristics of public urban and suburban transport services.
- The values of standard errors are very small for all eight characteristics of public urban and suburban transport services and range from 0.028 to 0.052, which implies the conclusion that all the results of the conducted simultaneous multiple regression analysis can be accepted.

Accordingly, based on consulting relevant theoretical sources and analyzes of empirical research procedures and results, it is concluded that the research hypothesis is accepted, ie that the quality of public urban and suburban transport services largely determines the level of passenger satisfaction in Tuzla Canton.

5. DISCUSSION

The quality of public transport service represents the overall measure of perceived performance from the passenger's point of view. Today's globalization trends are driving the growing need for passenger mobility. Having that in mind, carriers must create new strategies by which they can provide an appropriate level of service quality to customers. It is necessary to conduct a research and detect which factors contribute to passenger satisfaction. In order to achieve the research objective, we examined the impact of the quality of transport services on the level of passenger satisfaction in Tuzla Canton. Based on the results of simultaneous multiple regression analysis, we can conclude that the characteristics of public urban and suburban transport services such as „comfort", „reliability", „security", „accessibility" and „passenger care" are significant predictors of passenger satisfaction, while the other three characteristics, „availability", „frequency" and „environment" do not determine to a significant extent the satisfaction of travelers in the area of Tuzla Canton.

Many authors have addressed the question of passenger satisfaction while using public transport, with different dimensions used while measuring the quality of public transport services. The findings are quite diverse and they vary considering the existing papers. Our findings are consistent with the results of some of the empirical research but in some aspects. Observed consistency to our findings and some of the transport characteristics that determine service quality recognized by passengers is found at Stopka, Šimková and Konečny (2015). The authors concluded that one of the transport characteristics that determine service quality is safety, while frequency (number of lines

and connectivity with other transport lines) is not significant, which aligns with our findings. In contrast, Mouwen (2015) finds that frequency is among the top three most important attributes for service quality, totally contrary to our findings. On the other hand, there are some ambiguous signals resulting from research conducted by Chan, Ibrahim, Lo, Suaidi & Ha (2021) and our findings. Namely, the authors stated that accessibility and safety are determinants of service quality, while we found that safety determines service quality but accessibility does not. Our results are consistent to Rajković & Vasiljević (2020) research conducted in Kragujevac (Serbia), considering safety and passenger care as top service quality determinants, while availability and environment do not significantly determine passenger satisfaction. Given the importance of improving the quality of public transport, this research should arouse interest in further examinations in this field.

6. CONCLUSION

This paper analyzed the impact of the quality of public urban and suburban transport services on the level of passenger satisfaction in Tuzla Canton. Based on the results of simultaneous multiple regression analysis, the central research hypothesis is confirmed.

This research provides theoretical, methodological and empirical scientific contribution, which consists in systematizing previous theoretical knowledge about the characteristics of public urban and suburban transport services, identifying key quality characteristics of public urban and suburban transport services, and examining the impact of the characteristics of the quality of public urban and suburban transport services on passenger satisfaction.

Despite its contribution, the research conducted for the purposes of this paper has a number of limitations that, on the other hand, open the way for future research. First, a potential constraint is the structure of respondents according to sociodemographic characteristics. Namely, the sample of our research consisted of users of public transport services, and each of them inevitably has certain specifics that can be manifested on the variables covered by the research. Given the complexity of the observed issues, future research could focus on other sociodemographic characteristics such as average monthly income of users, or for example, urban-rural passenger component, in terms of whether the perception of quality refers to urban or suburban transport. In this way, the generalization of attitudes would be avoided, since the results obtained, while respecting their specifics, would contribute to improving the quality of urban and / or suburban public transport. Another potential limitation relates to the size of the sample, which imposes the direction for future research towards increasing the number of respondents. This limitation is due to the relatively underdeveloped business culture and its readiness and willingness to cooperate and participate in research, which is further reflected in limited opportunities in collecting primary data and efforts to ensure a proper   sample size. Also, it is considered expedient to include management and employees in organizations and companies that provide public urban and suburban transport services, since they were not included in this research. The obtained primary data would enable the comparison and research of possible differences in the perception of the quality of public transport services between users and passengers on the one hand, and management and employees of companies providing public transport services on the other hand.

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THE PUBLIC PROCUREMENT REPORTS IN THE REPUBLIC OF NORTH MACEDONIA THROUGH THE PRISM OF BENFORD'S LAW

ABSTRACT

Public procurement contracts have a great value for every national economy. Due to the fact that public procurement contracts are one of the greatest expenditures in national budgets, these procedures may be a huge trap for favoritism, irregularities, violation or other forms of corruption. The possibilities for corruption risks are constantly increasing by the complexity of the process, closer interaction between public officials, and entrepreneurs and businessmen on the other side. These risks for manipulations and corruptive actions are present in all the phases of the procedure, until the final realization of the particular procurement.
One of the possible ways to discover the anomalies and possible manipulations in public procurements is by analyzing the reality of the data published in the yearly reports of the public procurement bureau of the Republic of North Macedonia issued in the last five years, by applying the Benford's law. The Benford's Law is an important control mechanism that can contribute to increasing of data integrity and information quality of the public procurement statistics reports.
The main objective of this paper is, by applying the Benford's law to recognize the precision and exactness of the published data, to identify some anomalies and manipulations in the monetary value of concluded contracts, as well as some suspicious parameters that are leading to higher risk level.
The existence of anomalies in the reports from the Public procurement bureau of the Republic of North Macedonia will be identified through five tests: z-statistics, MAD-Mean absolute deviation test, 2 χ - test, Kolmogorov-Smirnov test and Kuiper test. Microsoft Excel will be used to analyze the data.

Keywords: public procurement, Benford's Law, first digit test, anomalies, public procurement contracts, statistical tests

JEL: C80, K13, M42, H57, C43

1. INTRODUCTION

The Bureau of Public Procurement is a central body in the Republic of North Macedonia where all data related to the procedures for awarding contracts for public procurement at the state level are collected. With this competence, the Bureau directly encourages competition and transparency, as it

makes data available to all interested parties. All plans, announcements and notifications about concluded contracts for public procurement are published on the electronic system for public procurement. These data represent the basis for the preparation of detailed annual statistical reports, which are used for further analysis and taking measures for improving the public procurement system. The accuracy and reliability of the data on concluded contracts in the annual public procurement reports should be one of the basic principles for Public Procurement Bureau operating. These attributes are achieved by using proven data collection and processing methods, attested procedures and balanced calculations using all available sources of information. The importance of public procurement market is stress out by the fact that this market amounted to 11% of the country's GDP in 2022 (European Commission, 2022, p.57).

According to European Commission (2022, p.58-60) the electronic system for public procurement is functioning efficiently, but North Macedonia is moderately prepared in area of public procurement. One of the main remarks and so further recommendation is improving control of public procurement procedures through the efficient follow-up and reporting of irregularities, case of conflict of interest and fraudulent practices.

The Benford's law is used to detect anomalies, i.e., the existence of the real data on numerous data sets. The basic assumption is that when the distribution of the leading digits in the data set for the number and value of concluded contracts differs significantly from that expected by Benford's law, this anomaly may be an indication of fraud or manipulation. Thus, Benford's law is an important control mechanism that can contribute to increasing the integrity of data and the quality of information regarding to the various parameters of concluded public procurement contracts, as well as to greater transparency with the users of these reports. Hence, Benford's law is usually called the law of anomaly detection.

Through the application of Benford's law in identifying anomalies over the data of concluded contracts for public procurement, especially through the first digit of the value of the concluded contracts in relation to various parameters, the degree of intensity of competition and the level of corruption risk can be perceived. Namely, a greater distortion of the value is expected on public procurements with high corruption risks and a low degree of intensity of competition.

2. THEORETICAL ASPECTS OF BENFORD'S LAW AND PREVIOUS RESEARCH

Benford's Law (Law of the First Digit) can be used as a screening tool to detect fraud when is applied to a data set. This law describes the frequency distribution of the first digit in a data set and compares the expected and observed distributions. Since the digit 1 appears most often as the first digit in the data progression, and subsequent digits less often, strong deviations from expected frequencies or anomalies may indicate that the data is suspect. Namely, according to Benford's law in numerical lists, i.e. statistical data, the number 1 (one), as the starting number of a numerical value, appears with a probability of approximately 30%, which is much more than the expected 11.1% (calculated according to the theory of probability, according to which the probability of occurrence of each digit from 1 to 9 is the same). Benford's law reversed the usual assumption that every digit in every position could be equally likely. The most famous version of Benford's law is related to the distribution of first leading digits, which states that (Berger, 2011):

$$P(D) = \log(1 + \frac{1}{D}) \qquad D \in \{1,2,...,9\},$$

where D is a random variable; $D : R \rightarrow \{1,2,...,9\}$ and denotes the first significant digit of the randomly selected real number.

The following graph shows the distribution of the relative frequencies of the first significant digits according to Benford's law.
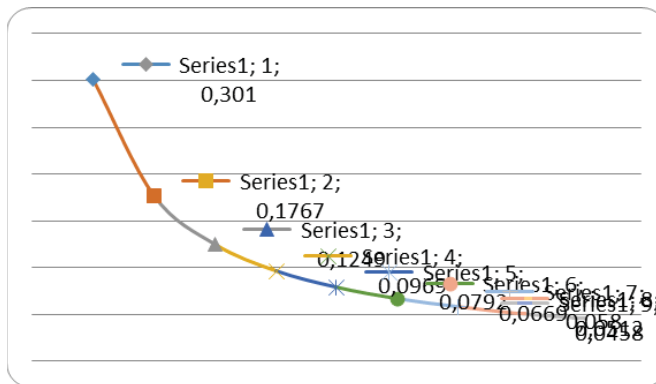
Fig. 1: The distribution of relative frequencies in the first significant figures according to Benford's law

Benford's law applies in many areas, such as: macroeconomic reports; (Rauch et al, 2011); elections; information technologies; the judiciary; lightning strikes (Pooyan, 2010); Earthquakes (Díaz et al, 2007); nuclear science (Wells et al, 2007); medicine (Sanches and Jorge S. 2006, Zdraveski, et al, 2022); detecting modifications in JPEG images (Kumar et al, 2015); irregularities in financial data (Zdraveski & Janeska, 2021); abnormalities in public statistics data (Matakovic, 2021) etc.

Benford's law is used as analytic tools to examine the phenomenon of corruption in public procurement in terms of intensity of competition, corruption risks, and price distortion. Tóth & Hajdu, (2017) in their report are illustrating the use of the Benford's law through the empirical analysis of the Hungarian public procurement data in the period of 2009-2016. Sampaio, Figueiredo and Loiola (2022) analyzed the values of Electronic Bidding Processes that occurred in the Purchasing Portal of the Brazilian Federal Government in period between 2014-2018 by using the Newcomb-Benford law aiming to verify anomalies, which represent signs of fraud.

3. RESEARCH METHODOLOGY

In this paper Benford's analysis is carried out on the data from the reports on public procurement in North Macedonia, actually the data relating to the concluded contracts for public procurement. Namely, the research covert the data related to: number and value of concluded contracts according to the type of procedure (simplified competitive procedure, simplified open procedure, open procedure, qualification system, negotiated procedure with prior publication of an announcement, negotiated procedure without prior publication of an announcement, procedures for procurement of social or special services), number and value of concluded contracts according to the type of public procurement contract (goods, services and works), number and value of concluded contracts based on the criterion (these data are available only for the last 2 years), number and value of concluded contracts according to the category of contracting authority and data on concluded public procurement contracts according to other parameters (number and value of framework agreements and number and value of concluded contracts according to the type of procedure and the justification for choosing the procedure.

The total amount of data from year to year is different, depending on the items by individual indicators. The analysis was performed over 628 data in total for the last 5 years (2017-136, 2018-126, 2019-132, 2020-114 and 2021-120 data). For the purpose of the paper, we used the data published in official state reports issued by the Public Procurement Bureau of Republic of North Macedonia. The number of positions from the reports is not the most suitable for one-year testing (due to the small amount of data), so we used the data from the reports for the last 5 years. Analysis of data in the reports for more than one year can be useful in terms of determining the propensity for malpractices in the publication of data. The existence of anomalies in reports from the Bureau of Public Procurement will be identified through five tests: z-statistics, test of average absolute

deviation (MAD-Mean absolute deviation), χ^2- test, Kolmogorov-Smirnov test and Kuiper test, through the test on the first digit of Benford's law.

Microsoft Excel was used for data analysis. To count how many time the digits from 1 to 9 occur, first we extract the first digits of the column from the sorted data using the function: LEFT. After that, the numbers 1 to 9 are inserted into the First column. In the Count column, the CountIF function is used in order to calculate exactly how many digits 1 to 9 exist in the total sample. In the column Actual, the relative actual frequencies are calculated. The next column is Benford' Law which shows the expected frequencies. According to the mathematical formulas for the separate tests and their corresponding critical values, it is ascertained whether or not there are anomalies in the publicly presented data in the reports by the public procurement bureau in North Macedonia.

4. ANALYSIS OF THE DATA ON CONCLUDED CONTRACTS IN THE REPORTS OF PUBLIC PROCUREMENT IN NORTH MACEDONIA

In order to identify anomalies in public procurement reports, first are used so-called z-statistics. The z-statistic is a statistical measure of how many standard deviations are from the mean value and how it allows to auditors (supervisors) to empirically determine whether deviations from the model are statistically significant. The following mathematical formula is used when using this test: (Pike, 2018, p.15):

$$Z = \frac{|A_i - B_i|}{\sqrt{\dfrac{B_i \cdot (1 - B_i)}{n}}}$$

where:

A_i - is a frequency of occurrence of the digit i determined by examination of the sample;

B_i - theoretical frequency of occurrence of the digit i expected by Benford's law;

n -total number of data.

The critical value for the z-statistic for the 5% confidence level is 1.96.(Nigrini, 2012, p.82)

Any z-result that exceeds the maximum allowable z-result can indicate the possibility that a manipulation has been made, actually anomaly, and should be investigated further. The z-statistic analysis is presented in the following table:

Table 1: Analysis of data from public procurement reports relating to concluded contracts with z-statistics

First	Count	Actual	Benford'Law	Difference	AbsDiff	Z-stat
1	196	0.3121	0.30103	0.011071911	0.011071911	0.604878633
2	109	0.17357	0.17609	-0.002523121	0.002523121	0.166000987
3	60	0.09554	0.12494	-0.029398599	0.029398599	2.228110808
4	62	0.09873	0.09691	0.001816115	0.001816115	0.153841417
5	47	0.07484	0.07918	-0.004339236	0.004339236	0.402715123
6	33	0.05255	0.06695	-0.014402229	0.014402229	1.444048546
7	46	0.07325	0.05799	0.015258408	0.015258408	1.636005368
8	44	0.07006	0.05115	0.018913694	0.018913694	2.151466491
9	31	0.04936	0.04576	0.003603057	0.003603057	0.432094937
Sum	628	1			0.011258485	

Source: Authors' own calculations

From the z-stat column. from the table it can be concluded that there is a statistical deviation in digits 3 and 8, because the corresponding value of z is greater (insignificantly) than 1.96. Therefore, the rows of numbers 3 and 8 are marked in red. This means that according to this test the distribution of the first digit of the data on concluded public procurement contracts doesn't follow

the Benford distribution. Namely, at the data starting with the digits 3 and 8, more caution is needed, in fact they can indicate some kind of manipulation. In other words, these data open directions for questioning their reliability and accuracy.

The following diagram shows the actual occurrences of the digits in relation to Benford's law, which will also give an overview of the deviations:
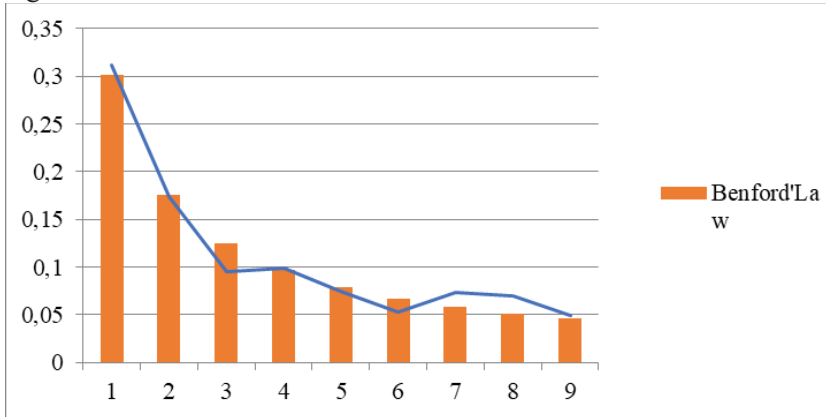

Fig. 2: Comparison of the appearance of the digits in the public procurement reports from 2017-2021 (in the first position are those according to Benford's law)

Further tests of Benford's law on data from public procurement reports are conducted by using the χ^2- test and the mean absolute deviation (MAD) test. The χ^2- the test, similar to the z-test, is very sensitive to the sample size and is based exclusively on the analysis of absolute frequencies and can give an answer as to how many of the obtained frequencies deviate from the expected frequencies. The following formula is used to conduct this test:

$$\chi^2 = \sum_{i=1}^{9} \frac{(A_i - B_i)^2}{B_i}$$

where:

A_i - is an absolute frequency of occurrence of the digit i determined by examination of the data;

B_i - is a theoretical absolute frequency of occurrence of the digit i expected from Benford's law.

The limit value of this test for the first digit is 15.507. If the obtained value is greater than the same, the null hypothesis that the distribution of the first digit corresponds to the expected distribution according to Benford's law is rejected. We compare the obtained value of the χ^2 - -test for 8 degrees of freedom with the critical p -value depending on the desired degree of confidence.

While, on the other hand, the MAD test is defined as the sum of the absolute values of the differences between the frequencies of occurrence of each of the digits and the expected frequencies of occurrence according to Branford's law. Then this sum is divided by the number of digits considered in the leading position. It is actually represented by the following mathematical formula (Nigrini, 2011, p.114):

$$MAD = \left(\sum_{i=1}^{n} |A_i - B_i| \right) / D$$

where:

A_i - frequency of occurrence of the digit i determined by examination of the data;

B_i - theoretical frequencies of occurrence of the digit i expected from Benford's law.

D - number of leading digits taken into consideration.

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The critical value for MAD for the first digit is 0,015. (Nigrini, 2012, p.160)

Because the MAD statistic does not depend on the size of the set being tested, it is considered a useful tool for examining data sets of varying size.

The analysis of the data according to the χ^2 -test and the MAD test is given in the following table:

Table 2: Analysis of the data according to χ^2 and MAD test – calculations by the authors

First digit	Benford'Law	Actual relative f	Actual absolute f	Expected absolute f	Difference	Abs. Difference	Hi-square
1	0.30103	0.312101911	196	189.04684	1.107191083	1.107191083	0.255737858
2	0.17609	0.173566879	109	110.58452	-0.252312102	0.252312102	0.022703934
3	0.12494	0.095541401	60	78.46232	-2.939859873	2.939859873	4.344215922
4	0.09691	0.098726115	62	60.85948	0.181611465	0.181611465	0.021373595
5	0.07918	0.074840764	47	49.72504	-0.433923567	0.433923567	0.1493381
6	0.06695	0.052547771	33	42.0446	-1.44022293	1.44022293	1.945666962
7	0.05799	0.073248408	46	36.41772	1.525840764	1.525840764	2.521302542
8	0.05115	0.070063694	44	32.1222	1.891369427	1.891369427	4.392044531
9	0.04576	0.049363057	31	28.73728	0.360305732	0.360305732	0.178162366
	1	1	628			1.125848549	13.83054581

Source: Authors' own calculations

As can be seen from the table, the average absolute deviation is 1.13 and belongs to the category of large deviation (over 0.015 is a large deviation from the limit values for this test), which means that according to this test the distribution of the first digit from the data on concluded public procurement contracts does not follow the Benford's distribution. The value of the χ^2 - test is 13.83 (which is lower than the limit value for this test (15.507), which indicate a good match between actual and expected distributions.

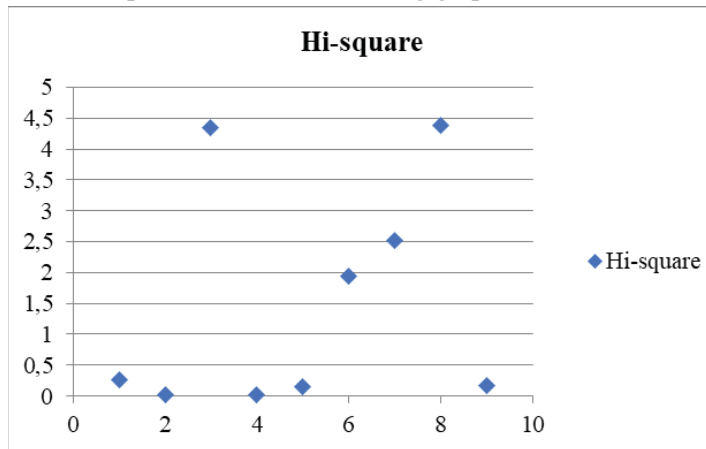The dispersion of the χ^2- test is presented in the following graph:

Fig. 3: χ^2 - test

The Kolmogorov-Smirnov test is based on a statistic that represents the maximum value of the deviation from Benford's law, thus summing the differences between the frequencies of the digits 1 to 9 obtained by testing the sample data and the frequencies expected theoretically. It is a non-parametric statistical test. The mathematical model used for this test is as follows:

$$KS = \max\left\{|C_1 - O_1|, |(C_1 + C_2) - (O_1 - O_2)|, ..., |(C_1 + C_2 + ... + C_9) - (O_1 + O_2 + ... + O_9)|\right\}$$

where:

    C_i - is a frequency of occurrence of the digit i determined by examination of the data;

    O_i - shows theoretical frequencies of occurrence of the digit i expected from Benford's law

The critical value of this test is expressed through the following mathematical formula: (Morrow, 2010, p 5).

$$KS = \frac{1{,}148}{\sqrt{n}}$$

Where

where 1.148 is a constant specific to the Benford's distribution for a significance level of 0.05 and n number of data.

While Kolmogorov's Smirnov test is applied to find shifts in the probability distribution, with the greatest sensitivity around the mean, the Kuiper test considers all distributions. And this test is a statistical non-parametric test. The Kuiper test can provide a reliable score in this research given the fact that it is applied to smaller data sets. This test uses the following mathematical formulas (Aslan, 2002, p. 169):

$$V_n = D_n^+ + D_n^-$$

where :

$$D_n^+ = \max\left[F_n(x) - F_0(x)\right]$$

$$D_n^- = \max\left[F_0(x) - F_n(x)\right]$$

The critical value for this test is calculated as follow: (Morrow, 2010, p.5)

$$K = \frac{1{,}321}{\sqrt{n}}$$

Where 1,321 is constantly specific to Benford's distribution for a level of significancy of 0.05 and n number of data.

The following table shows the critical values and conclusions for the Kolmogorov-Smirnov and Kuiper test: (Morrow, 2010, p.5)

Table 3: Critical values and conclusions for the Kolmogorov-Smirnov and Kuiper test

Critical value	Benford Specific		
	$\alpha = 0{,}1$	$\alpha = 0{,}05$	$\alpha = 0{,}01$
Kuiper test	1.191	1.321	1.579
KS test	1.012	1.148	1.420

Analysis of data according to Kolmogorov-Smirnov and Kuiper test is given in the following table:

Table 4: Analysis of data according to Kolmogorov-Smirnov and Kuiper test

First	Count	Tested	Benford'Law	Cumulative Actual	Cumulative Benford'Law	Abs Difference	Dn+	Dn-	Kuiper's test
1	196	0.312101911	0.30103	0.312101911	0.30103	0.011071911	-0.01107	0.011072	
2	109	0.173566879	0.17609	0.48566879	0.47712	0.00854879	0.002523	-0.00252	
3	60	0.095541401	0.12494	0.581210191	0.60206	0.020849809	0.029399	-0.0294	
4	62	0.098726115	0.09691	0.679936306	0.69897	0.019033694	-0.00182	0.001816	
5	47	0.074840764	0.07918	0.75477707	0.77815	0.02337293	0.004339	-0.00434	
6	33	0.052547771	0.06695	0.807324841	0.8451	0.037775159	0.014402	-0.0144	
7	46	0.073248408	0.05799	0.880573248	0.90309	0.022516752	-0.01526	0.015258	
8	44	0.070063694	0.05115	0.950636943	0.95424	0.003603057	-0.01891	0.018914	
9	31	0.049363057	0.04576	1	1	0	-0.0036	0.003603	
	628	1	1			0.037775159	0.029399	0.018914	0.048312293

Source: Authors' own calculations

The following figure presents the cumulative relative frequencies:
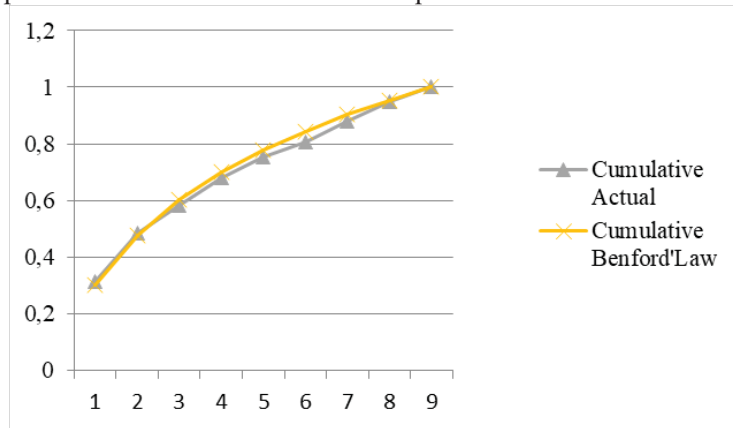

Fig. 4: Cumulative relative frequencies

The critical value for the Kolmogorov-Smirnov test is:

$$KS = \frac{1,148}{\sqrt{n}} = \frac{1,148}{\sqrt{628}} = 0,046$$

Considering the fact that the calculated value 0.038 is less than the critical value, the actual and expected data values of concluded public procurement contracts are matching.

The calculated value 0.038 is less than the critical value, which means that the actual and expected data values of concluded public procurement contract are matching.
The critical value for the Kuiper test is

$$K = \frac{1,321}{\sqrt{n}} = \frac{1,321}{\sqrt{628}} = 0,053$$

Since the calculated value 0.048 is lower than the critical value, according to this test, as well as the previous one, the actual and expected values of the data on concluded public procurement contracts coincide.

From the results of all tests (χ^2 - the test, the Kolmogorov-Smirnov test and the Kuiper test) it can be concluded that there is no difference in the actual and expected values of the data for concluded public procurement contracts, while according to the z-test there is an insignificant discrepancy and in the MAD test there is a large deviation between the actual and expected values.

However, taking into account that in the z-test for a smaller set of data, larger deviations (in this case, the deviations are small, and only for 2 digits) will not be significant (because the research was carried out over a small set of data ($n < 1000$) (Campanelli, 2022, p.1) and taking into account

that with the MAD test, although it doesn't depend on the size of the data set, there are no objective critical values (Nigrini, 2012,p.159) the general finding is that there are no anomalies in the data relating to concluded contracts, presented in the reports from the Bureau of Public Procurement in Republic of North Macedonia.

CONCLUSION

Considering the fact that public procurement in the Republic of North Macedonia has a significant contribution in the gross domestic product, the neccessity of precise, reliable and accurate data presented in the annual statistical reports prepared by the Public Procurement Bureau in North Macedonia is more than obvious. Today, data can be sorted and processed in a variety of ways through the information technology and on that way arises the possibility of displaying distorted data (intentionally or unintentionally). The purpose of the conducted research was, to identify anomalies in the presented data of concluded contracts according to different parameters by using various tests based on Benford's law (law of the first digit).

The analysis showed that the number and value of concluded public procurement contracts according to various parameters correspond to the Benford's distribution for the period of 2017-2021 as a whole, which means they are accurate and reliable.

The paper represents an initial step to detect possible manipulations in the public procurement reports by using Benford's law, because in North Macedonia no tools and techniques are used to detect data anomalies in annual public procurement reports.

The further research will be focused on analyzing the reliability of the data separately for each year, because many cases shows that by using analysis of data for a longer period, many data anomalies in individual report items are masked. Also, the analysis can be carried out on the other parameters, which are an integral part of the public procurement reports, such as: data from the notices for annulment of the procedures, data on participation in the procedures, data on electronic auctions, data on established red flags etc.

When analyzing this data, it should be taken into account that Benford's law is "not a lie detector", but only an indicator of an increased risk of fraud or error, since deviations from Benford's law indicate that the digits in a particular set of numbers are being manipulated in any way but according to Benford's law it cannot be determined whether data manipulations are accidental or intentional. An inadvertent error may occur for technical reasons during the physical collection and processing of data. In any case, supervisory institutions and bodies should apply this tool, with the main aim to increase the quality of annual reports on public procurement.

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[i] https://wapi.gov.me/download-preview/27e3b58c-ac26-4a5d-87d2-5824e018e1f1?version=1.0
[ii] https://www.nbs.rs/export/sites/NBS_site/documents/osiguranje/izvestaji/izv_IV_2022.pdf
[iii] http://sors.ba/en/proceedings/
[iv] ESG (Environmental, Social, and Governance) factors represent a set of criteria that companies, investors, and other decision-makers use to assess the sustainability and ethics of a company's operations, activities, and investments.

[v] In similar studies authors use the term of "county" instead of canton (Rašić-Bakarić, 2006).
[vi] For more technical details of the factor and cluster analysis see Zahirović & Okičić, 2021.
[vii] $GDPpc \ in \ LGU = \left. GDP \ FBiH \times \dfrac{Average \ wage \ in \ LGU \times Employment \ in \ LGU}{Average \ wage \ in \ FBiH \times Employment \ in \ FBiH} \middle/ Population \ in \ LGU \right.$

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