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NAMERA PONAŠANJA PREMA USLUGAMA ZELENOG BANKARSTVA: MODERIRAJUĆI EFEKTI EKOLOŠKE SVESTI

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Đokić⁵

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Apstrakt

Da bi se smanjili negativni uticaji na životnu sredinu, koji se manifestuju kroz probleme poput globalnog zagrevanja, krčenja šuma i zagađenja vazduha, različiti poslovni i društveni entiteti treba da donesu važne odluke i sprovedu određene promene u svojim aktivnostima. Među njima, značajan doprinos realizaciji pomenutog zadatka može se očekivati od banaka. Zelene bankarske usluge su samo jedno od rešenja koja mogu smanjiti ekološki rizik i pružiti određene beneficije korisnicima. Stoga, u ovom radu, pažnja je posvećena tim uslugama, odnosno analizi ponašanja prema njima. Model zasnovan na teoriji planiranog ponašanja (TPB) primenjen je, pri čemu je, pored tri glavna prediktora, ekološka svest dodata kao moderator. Za analizu moderirajućih efekata korišćeno je modelovanje strukturalnih jednačina. Nakon predstavljanja istraživačkih rezultata, date su određene implikacije.

Ključne reči: zeleno bankarstvo, namera ponašanja, teorija planiranog ponašanja, stav, ekološka svest, moderacija

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Uvod

Procesi industrijalizacije i globalizacije doneli su mnoge koristi dodajući "mnogo udobnosti i luksuza ljudskom životu"; međutim, takođe su doveli do upozoravajuće situacije u vezi sa degradacijom životne sredine (Tara et al., 2015, str. 1029). Izveštaj Međuvladinog panela o klimatskim promenama (IPCC) ne samo da je potvrdio da ljudske aktivnosti utiču na globalno zagrevanje, već je ukazao i na njegovo dalje ubrzanje, pri čemu bi između 2030. i 2052. moglo dostići nivo od 1,5 °C više nego u preindustrijskom periodu (Park, Kim, 2020). Problem globalnog zagrevanja utiče na promene klime, a time i na druge aspekte ljudskog društva, uključujući zdravlje, proizvodnju hrane, dostupnost vode, upotrebljivost zemljišta, itd. (Shafique, Khan, 2020).

Da bi se ublažili negativni efekti globalnog zagrevanja, potrebne su značajne promene koje treba da primene različiti društveni i poslovni entiteti. Među njima, posebno mesto pripada bankama, koje pored finansijskog razvoja mogu imati proaktivnu ulogu i u očuvanju ekologije (Bouteraa et al., 2020). Pored mobilizacije finansijskih resursa (Aracil et al., 2021), bankarski sektor ima važnu funkciju u pružanju podrške zemlji u prilagođavanju klimatskim promenama i poboljšanju otpornosti na klimatske rizike (Park i Kim, 2020). Stoga, kako su pomenuli Bukhari et al. (2022, str. 287), "digitalizacija i ozelenjavanje ekonomskog sistema zemlje u velikoj meri zavise od ozelenjavanja bankarske industrije". Zelena bankarstvo može značajno pomoći u rešavanju brojnih ekoloških problema, koji se odnose na gubitak biodiverziteta, krčenje šuma, klimatske promene i probleme sa kvalitetom vazduha; istovremeno, uključeno je i u obezbeđivanje korisnih prilika za korisnike usluga (Chew et al, 2016).

Što se tiče zaštite životne sredine, važnu ulogu imaju kupci. U poslednjih nekoliko decenija, došlo je do određenih promena u njihovoj svesti i potrošnji zelenih proizvoda i usluga; porast ekološke svesti, između ostalog, dogodio se kao rezultat veće medijske pažnje i povećane svesti o ekološkim štetama (Ansu-Mensah, 2021). Upoznavanjem sa negativnim posledicama svojih kupovnih navika i odluka, kupci su počeli da menjaju svoje stavove o ekološkim pitanjima (Costa et al, 2021). Preferiranje zelenih proizvoda i usluga može se videti kao efikasan način zaštite prirode, pri čemu se ovaj trend pretvara u subkulturu (Ahmad, Zhang, 2020).

Imajući sve prethodno navedeno u vidu, u ovom radu akcenat je na nameri kupaca prema zelenim bankarskim uslugama u Autonomnoj Pokrajini Vojvodini, Republici Srbiji. Stoga su prezentovana objašnjenja i karakteristike zelenog bankarstva, kao i istraživanja sa sličnom temom. Nakon pregleda studija, postavljen je model zasnovan na teoriji planiranog ponašanja (TPB). Pri tome, pored stavova, percipirane kontrole ponašanja i subjektivnih normi, model je uključivao ekološku svest kao moderator. Nakon predstavljanja dobijenih rezultata, sledi diskusija i zaključak.

Koncept zelenog bankarstva

Iako se sama ideja pojavila 1968. godine, koren današnjeg koncepta zelenog bankarstva leži u osnivanju Triodos banke 1980. godine; ime ove banke potiče iz grčkog "tri hodos", što znači "trostruki pristup" (planeta, ljudi i profit) (Apostoaie et al, 2019).

Zeleno bankarstvo (ZB) povezano je sa drugim terminima, poput etičkog bankarstva, ekološki prihvatljivog bankarstva i održivog bankarstva (Bouteraa et al., 2020). U skladu sa Rajan (2020), ono korelira sa terminom Korporativne društvene odgovornosti (CSR), pri čemu je fokus na zaštiti životne sredine i smanjenju emisije ugljenika pri pružanju bankarskih usluga. Međutim, iako se ovi termini mogu koristiti kao sinonimi, zeleno bankarstvo, kao i društveno bankarstvo, etičko bankarstvo i CSR mogu se posmatrati u kontekstu održivog bankarstva, koje obuhvata sva tri aspekta: ekološki, etički i društveni (Kumar, Prakash, 2019). To implicira da banke treba da kreiraju adekvatan poslovni model zasnovan na komponentama poput profita, ljudi, kao i planete.

Što se tiče koncepta ZB, postoji mnogo objašnjenja koja se odnose na ovaj termin. Prema Izveštaju o zelenom bankarstvu, "ZB se odnosi na implementaciju, podršku i promociju ekološki prihvatljivih praksi i smanjenje ugljeničnog otiska u internim i eksternim operacijama banaka" (Apostoaie et al., 2019, str. 3). Park, Kim (2020, str. 4) definisali su zeleno bankarstvo "kao finansijske aktivnosti bankarskih i nebankarskih finansijskih institucija sa ciljem smanjenja emisija gasova sa efektom staklene bašte i povećanja otpornosti društva na negativne uticaje klimatskih promena uzimajući u obzir i druge ciljeve održivog razvoja kao što su ekonomski rast, stvaranje radnih mesta i rodna ravnopravnost". Bhardwaja, Malhotra (2013, str. 181) definišu ZB kao "bankarski posao koji se obavlja na takvim područjima i na takav način da pomaže ukupno smanjenje spoljnih emisija ugljenika i unutrašnjeg ugljeničnog otiska". Prema Bukhari et al. (2022), zeleno bankarstvo može se smatrati bankarskom ideologijom čije usvajanje treba da dovede do uključivanja vrednosti ekološke etike u svakodnevne bankarske aktivnosti i finansijski portfolio. Kako je pomenuto u istraživanju Ibe-enwoa et al. (2019), zelena banka se odnosi na bankarski sistem vođen vrednostima koji zadovoljava želje klijenata pružajući sigurnost njihovih investicija, depozita i životne sredine.

Kada je reč o proizvodima i uslugama zelenog bankarstva, Park i Kim (2020) su razlikovali šest glavnih kategorija: zajmovi, osiguranje, sekjuritizacija, investicije u kapital, brokerske usluge i stvaranja tržišta, kao i tehnička pomoć. Što se tiče individualnih klijenata, osim finansiranja zelenih startapova i projekata, posebna pažnja treba da bude posvećena ličnim zajmovima za kupovinu energetski efikasnih i ekološki prihvatljivih proizvoda i vozila.

Konceptualni model i hipoteze

Prilikom analize zelenih bankarskih usluga, posebna pažnja treba da bude posvećena tražnji. Stoga, postoji niz istraživanja u kojima je naglasak na klijentima, odnosno na njihovim namerama da koriste ovu vrstu usluga. Predmeti tih istraživanja bili su svest klijenata o konceptu zelenog bankarstva (Pariag-Maraye et al., 2017), percepcija klijenata o praksama zelenog bankarstva (Rai et al., 2019), zadovoljstvo klijenata (Bihade, Karande, 2020; Herath i Herath, 2019; Solekah, 2019; Sultana et al., 2021), i lojalnost (Ibe-enwo et al., 2019; Solekah, 2019; Sun et al., 2020).

Takođe, u određenim studijama, naglasak je bio na nameri kupaca prema zelenim bankarskim uslugama. Neki od njih su se bazirali na primeni ujedinjene teorije prihvatanja i korišćenja tehnologije (UTAUT). Bouteraa et al. (2020) predložili su model koji, pored namera kupaca, uključuje četiri UTAUT faktora (očekivanje performansi, očekivanje napora, društveni uticaj i olakšavajući uslovi) i religioznost. Postoji i predlog prema kojem namera kupca da usvoji zeleno bankarstvo može biti određena UTAUT faktorima i osam dodatnih varijabli, koje su kategorizovane u četiri glavne grupe: individualne dimenzije (lična inovativnost, svest i percipirana korist), dimenzije organizacije (kvalitet sistema i podrška vrhovnog menadžmenta), tehnologija (sigurnost i privatnost) i okruženje (podrška vlade i podrška dobavljača) (Bouteraa et al., 2021).

Pored UTAUT-a, primenjivana je i teorija planiranog ponašanja (TPB). Osim namere i ponašanja, ova teorija uključuje još tri varijable: stav prema ponašanju, subjektivne norme (percepcija društvenog pritiska o izvršavanju ili neizvršavanju ponašanja) i percipirana kontrola ponašanja (Ajzen, 1991). Pristup TPB već je korišćen u nekoliko studija za analizu namere kupovine i/ili ponašanja u vezi sa zelenim proizvodima i uslugama (Kamalanon et al., 2022; Liobikienė et al., 2016; Nimri et al., 2020; Ting et al., 2019; Vu et al., 2022; Wang, Wong, 2021; Yadav, Pathak, 2017). Na osnovu toga, Taneja i Ali (2021) istraživali su nameru kupaca prema ekološki održivim bankarskim uslugama. Pored stava, percipirane kontrole ponašanja i subjektivnih normi (kao glavnih determinanti namere ponašanja prema TPB), njihov model uključivao je još tri varijable (poverenje, percepcija ekoloških ishoda i ekološka svest).

Milicević i sar. (2023) takođe su se oslonili na primenu TPB pristupa kako bi ispitali nameru korišćenja zelenih bankarskih usluga. Predmet analize bili su uticaji četiri prediktora - tri determinante TPB-a i ekološka svest, sa polom kao moderatorom.

U studijama koje se odnose na zelene proizvode ili usluge, ekološka svest, tj. "stepen do kojeg je osoba orijentisana ka brizi za životnu sredinu" (Lin, Chang, 2012, str. 127), nije korišćena samo kao prediktor, već i kao moderator. Lin, Chang (2012), između ostalog, analizirali su njegovu moderirajuću ulogu u

korišćenju redovnih vs. zelenih proizvoda. Garvey, Bolton (2017) su pokazali da je ekološka svest moderirala uticaj izbora eko-proizvoda na odgovorno ponašanje prema životnoj sredini. Moderirajuća uloga ekološke svesti ispitana je u kontekstu bihejvioralnih namera prema hotelskim objektima sa ekološkim sertifikatom (de Leaniz et al., 2018). Kautishet al. (2019) su istraživali moderirajuće efekte ekološke svesti i namera recikliranja na ponašanje u kupovini zelenih proizvoda u svetlu TPB teorije, pri čemu su značajni moderacijski efekti ekološke svesti uočeni u odnosu između percepcije efikasnosti potrošača i kupovine zelenih proizvoda, kao i između spremnosti da se bude ekološki prijateljski raspoložen i kupovine zelenih proizvoda.

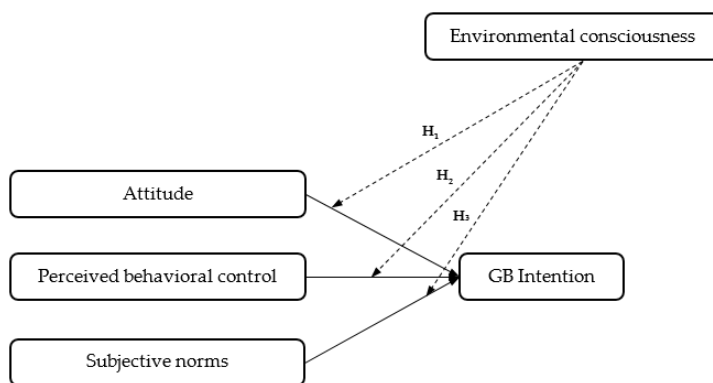
Oslanjajući se na istraživanje Milicevica et al. (2023), postavili smo model prikazan na slici 1. Imajući u vidu da su odnosi između prediktora TPB-a i nameravanog ponašanja već ispitani u pomenutom istraživanju, fokus ovog rada bio je na moderirajućim efektima. Stoga smo testirali sledeće hipoteze:

H₁. Ekološka svest moderira uticaj stava na nameru korisnika prema uslugama zelenog bankarstva.

H₂. Ekološka svest moderira uticaj percipirane kontrole ponašanja na nameru korisnika prema uslugama zelenog bankarstva.

H₃. Ekološka svest moderira uticaj subjektivnih normi na nameru korisnika prema uslugama zelenog bankarstva.

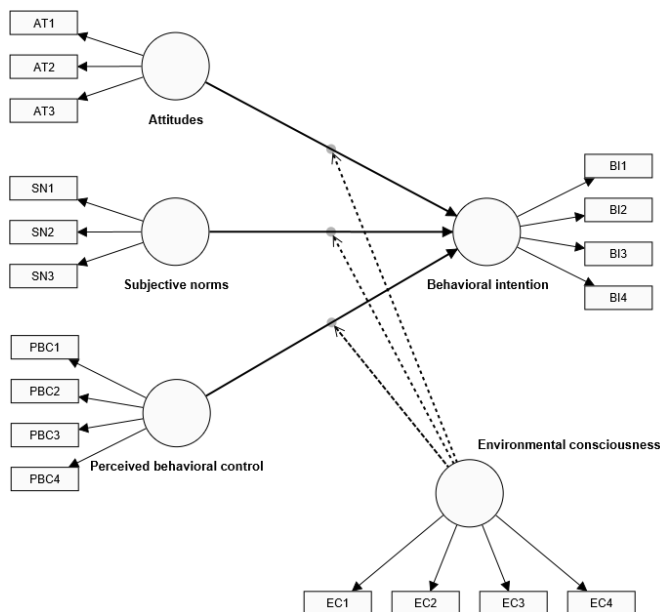
Slika 1. Konceptualni model



Materijali i metode

U istraživanju smo koristili prigodan uzorak koji je obuhvatio 733 ispitanika iz Autonomne Pokrajine Vojvodine (Republika Srbija). Prosečna starost ispitanika bila je preko 34 godine, pri čemu je većina njih (oko 65%) bila ženskog pola. Podaci su obrađeni u Softveru SmartPLS 4 2024. godine.

Slika 2. Statistički model



Naš statistički model (prikazan na slici 2) uključivao je nameru ponašanja (BI) kao nezavisni konstrukt; stav (AT), percipiranu kontrolu ponašanja (PBC) i subjektivne norme (SN) kao njegove glavne prediktore; i ekološku svest (EC) kao moderator.

Stavke korišćene u istraživanju ocenjene su na petostepenoj Likertovoj skali (od "potpuno se ne slažem" do "potpuno se slažem"). Četiri od pet konstrukata (percipirana kontrola ponašanja (PBC1 - PBC4), subjektivne norme (SN1 - SN3), stav (AT1 - AT3) i namera ponašanja (BI1 - BI4)) merene su u skladu sa Taneja and Ali (2021), dok smo se za merenje ekološke svesti (EC1 - EC4) koristili studiju Costa et al. (2021).

Pomenuti konstrukti tretirani su kao reflektivni, zbog čega su predmet analize bili pojedinačna pouzdanost indikatora (ocenjena spoljašnjim opterećenjima), unutrašnja konzistentnost pouzdanosti (ocenjena kompozitnom pouzdanošću (CR)), konvergentna validnost (ocenjena prosečnom ekstrahovanom varijansom (AVE)) i diskriminantna validnost (ocenjena korišćenjem HTMT pristupa) (Hair et al., 2017).

Na nivou strukturnog modela, proverili smo potencijalne probleme multikolinearnosti analizirajući unutrašnje VIF vrednosti prediktorskih konstrukata. Za testiranje hipoteza, uzeli smo u obzir značajnost koeficijenata putanje u vezi sa tri interakcije (AT*EC, PBC*EC, and SN*EC), kao i njihovu suštinsku važnost analizirajući efekte veličine f^2 (Becker et al., 2023).

Rezultati i diskusija

Svi reflektivni konstrukti (namera ponašanja, stav, subjektivne norme, percipirana kontrola ponašanja i ekološka svest) su testirani u pogledu pouzdanosti i validnosti. Ovi rezultati su prikazani u Tabeli 1.

Tabela 1. Reflektivni konstrukti – kriterijumi kvaliteta

Konstrukti i stavke	Opterećenja	AVE	CR
Percipirana kontrola ponašanja		0.737	0.918
PBC1	0.805		
PBC2	0.905		
PBC3	0.897		
PBC4	0.822		
Subjektivne norme		0.655	0.850
SN1	0.887		
SN2	0.803		
SN3	0.731		
Stav		0.675	0.862
AT1	0.798		
AT2	0.786		
AT3	0.879		
Namera ponašanja		0.759	0.926
BI1	0.846		
BI2	0.889		
BI3	0.900		
BI4	0.849		
Ekološka svest		0.726	0.914
EC1	0.820		
EC2	0.856		
EC3	0.864		
EC4	0.867		

Izvor: Autori

Spoljašnja opterećenja za sve indikatore bila su veća od 0.7, potvrđujući pouzdanost pojedinačnih indikatora. Pored toga, vrednosti AVE i CR su takođe bile zadovoljavajuće, odnosno veće od 0.5 i 0.7, redom.

Rezultati testiranja diskriminantne validnosti prikazani su u Tabeli 2.

Tabela 2. Diskriminantna validnost - HTMT pristup

	HTMT
Namera ponašanja -> Stav	0.712
Ekološka svest -> Stav	0.307
Ekološka svest -> Namera ponašanja	0.281
Percipirana kontrola ponašanja -> Stav	0.314
Percipirana kontrola ponašanja -> Namera ponašanja	0.377
Percipirana kontrola ponašanja -> Ekološka svest	0.108
Subjektivne norme -> Stav	0.560

Subjektivne norme -> Namera ponašanja	0.342
Subjektivne norme -> Ekološka svest	0.055
Subjektivne norme -> Percipirana kontrola ponašanja	0.577

Izvor: Autori

Kako su vrednosti HTMT za sve parove bile ispod praga od 0.85, može se zaključiti da je uspostavljena diskriminantna validnost.

Vrednost R^2 iznosila je 0,415. Što se tiče multikolinearnosti, nije bilo problema imajući u vidu da su sve unutrašnje VIF vrednosti bile manje od 5. Koeficijenti za svaki odnos, praćeni njihovim p-vrednostima, prikazani su u Tabeli 3.

Tabela 3. Path koeficijenti – testiranje hipoteza

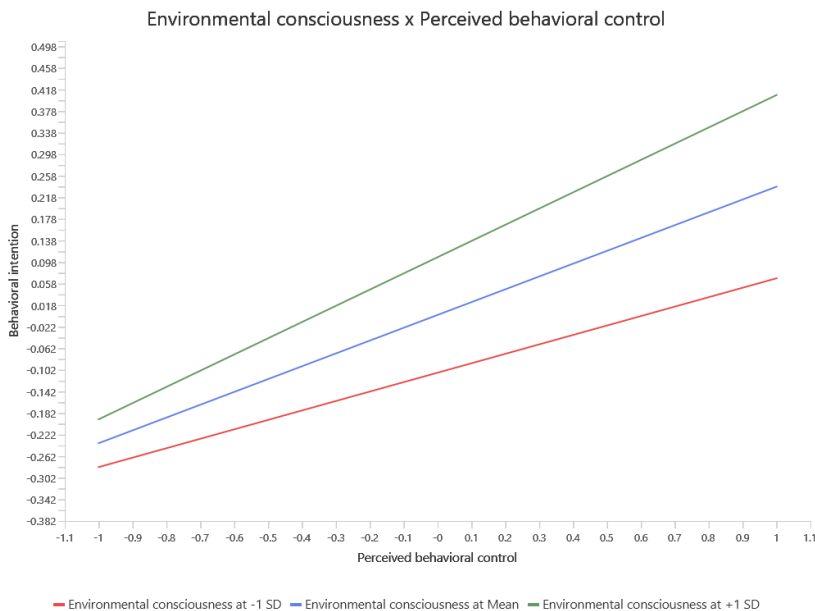
Path koeficijenti	Direktni efekti	p-value
Stav → Namera ponašanja	0.522	0.000
Percipirana kontrola ponašanja → Namera ponašanja	0.238	0.000
Subjektivne norme → Namera ponašanja	-0.050	0.167
AT*EC → Namera ponašanja	-0.045	0.091
PBC*EC → Namera ponašanja	0.063	0.071
SN*EC → Namera ponašanja	-0.045	0.219

Izvor: Autori

U slučaju glavnih prediktora TPB-a, zabeleženi su pozitivni efekti na nameru ponašanja za stav i percipiranu kontrolu ponašanja. Ovi efekti takođe su bili značajni sa p vrednošću manjom od 0,05. S druge strane, subjektivne norme su imale negativan uticaj na nameru ponašanja sa p-vrednošću većom od 0,05. Imajući u vidu da su sva tri koeficijenta dobijena u modelu koji uključuje moderatora, oni predstavljaju "proste efekte" i mogu se koristiti za tumačenje rezultata analize modulacije (Hair et al., 2017).

Što se tiče interakcija, dva od njih (AT*EC and SN*EC) negativno su uticala na nameru ponašanja, dok je efekat PBC*EC bio pozitivan. Međutim, njihove p-vrednosti bile su veće od 0,05, dok su za AT*EC i PBC*EC bile ispod 0,1. Dodatno, proverili smo da li su ova dva efekta suštinska, analizirajući njihove efekte veličine f^2 . Vrednost f^2 premašila je donju granicu od 0,005 samo u slučaju interakcije PBC*EC. Budući da je iznosila 0,006, ovaj efekat je smatran slabim (Becker et al., 2023). Time, uz određeni stepen opreza, samo hipoteza H_2 mogla bi biti potvrđena. Stoga, sledeći Hair et al. (2017), ako se prosečna vrednost svesti o životnoj sredini poveća za jedno standardno odstupanje (SD), odnos između PBC i namere ponašanja povećao bi se na vrednost od 0,301 (0,238 + 0,063). Ovo se takođe može videti na Slici 3, gde je zelena linija (ekološka svest na + 1 SD) strmija od plave linije (ekološka svest na srednjoj vrednost).

Slika 3. Analiza jednostavnog nagiba



Kada su u pitanju slična istraživanja, prilikom ispitivanja moderirajućih efekata svesti o životnoj sredini, Kautish et al. (2019), između ostalih, su ustanovili pozitivan i značajan uticaj PBC na ponašanje zelene kupovine kod grupe potrošača sa visokom svesti o životnoj sredini, dok u slučaju grupe sa niskom svesti o životnoj sredini nije bio značajan.

Zaključak

Da bi zaštitili životnu sredinu, kako kupci, tako i različite organizacije, treba da promene svoje aktivnosti - da postanu zelenije. Među njima, posebno mesto pripada bankama, koje mogu doprineti ostvarivanju ciljeva održivog razvoja kako direktno, tako i indirektno. Kroz pružanje zelenih usluga, banke mogu doneti mnoge koristi, ne samo u vezi sa životnom sredinom, već i one koje su povezane sa korisnicima.

Stoga, u radu je ispitana namera ponašanja prema zelenim bankarskim uslugama u svetlu teorije planiranog ponašanja, uključujući moderirajuće efekte ekološke svesti. Budući da su uticaji stavova, percipirane kontrole ponašanja i subjektivnih normi na nameru ponašanja već ispitani, fokus istraživanja bio je na moderaciji. Rezultati su pokazali da je ekološka svest moderirala odnos između percipirane kontrole ponašanja i namere ponašanja. Stoga, iako ljudi mogu imati resurse i znanje potrebne za usvajanje zelenih bankarskih usluga, uticaj na nameru ponašanja zavisi od njihovog nivoa ekološke svesti. Pri tome, povećanje ekološke svesti jača efekat percipirane kontrole ponašanja na nameru ponašanja.

Imajući u vidu dobijene rezultate, banke treba da obrate pažnju na edukaciju i informisanje ljudi o konceptu zelenog bankarstva. U tu svrhu, mogu koristiti različite medije, kao što su veb sajtovi, društvene mreže, itd. Određena predavanja i prezentacije o zelenom bankarstvu mogla bi biti organizovana u saradnji sa obrazovnim institucijama. Pored toga, fokus treba da bude na olakšavanju korišćenja ovih vrsta usluga i tehnologija, kao i na obezbeđivanju uslova potrebnih za njihovu primenu (Taneja i Ali, 2021).

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BEHAVIOURAL INTENTION TOWARDS GREEN BANKING SERVICES: MODERATING EFFECTS OF ENVIRONMENTAL CONSCIOUSNESS

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Abstract

To minimize negative effects on the environment, manifested through problems such as global warming, deforestation, and air pollution, different business and social entities need to make important decisions and implement certain changes in their activities. Among them, a significant contribution to the realization of the mentioned task can be expected from banks. Green banking services are just one of the solutions that can both decrease environmental risk and provide some benefits to customers. Hence, in this paper, attention is paid to those services, i.e. to the analysis of behavioral intention towards them. The model based on the theory of planned behavior (TPB) was applied, whereby, besides three main predictors, environmental consciousness was added as a moderator. For analyzing moderating effects, structural equation modeling was used. After presenting research results, certain implications have been provided.

Keywords: *green banking, behavioral intention, theory of planned behavior, attitude, environmental consciousness, moderation.*

JEL: M31, G21

Introduction

The processes of industrialization and globalization have brought many benefits by adding “a lot of comfort and luxury to human life”; however, they have also led to a warning situation concerning environmental degradation (Tara et al.,

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2015, p. 1029). The report of the Intergovernmental Panel on Climate Change (IPCC) not only confirmed that human activities affected global warming but also pointed to its further acceleration, whereby between 2030 and 2052 it could reach the level of 1.5 °C higher than in the pre-industrial period (Park and Kim, 2020). The problem of global warming influences climate changes, and thus other aspects of human society, including health, food production, water availability, land usability, etc. (Shafique and Khan, 2020).

To alleviate the negative effects of global warming, significant changes need to be applied by different social and business entities. Among them, a special place belongs to banks, which besides financial development, can have a proactive role in ecological preservation as well (Bouteraa et al., 2020). In addition to the mobilization of financial resources (Aracil et al., 2021), the banking sector has an important function in providing support for the country's adjustment to climate change and improving its resilience to climate risks (Park and Kim, 2020). Therefore, as mentioned by Bukhari et al. (2022, p. 287) "the digitalization and greening of a country's economic system are largely dependent on the greening of the banking industry". Green banking can be of significant help in solving numerous environmental problems, referring to the loss of biodiversity, deforestation, climate change, and air quality issues; whereas, at the same time, it is enrolled in ensuring opportunities beneficial for customers (Chew et al., 2016).

Regarding environmental protection, an important role belongs to customers. In the last few decades, there have been certain changes concerning their awareness and consumption of green products and services; the rise of environmental awareness, among others, occurred as a result of greater media attention and increased consciousness of environmental damages (Ansu-Mensah, 2021). Becoming more acquainted with the negative consequences of their buying habits and decisions, customers started to change their attitudes regarding environmental issues (Costa et al., 2021). Preference for green products and services can be seen as an efficient way of protecting nature, whereby this trend is turning into a subculture (Ahmad and Zhang, 2020).

Having all previously mentioned in mind, in this paper, the emphasis is on customers' intention toward green banking services in the Autonomous Province of Vojvodina, Republic of Serbia. Therefore, explanations and characteristics of green banking were presented, as well as research with a similar theme. Following reviewed studies, we have set the model based on the theory of planned behavior (TPB). Hereby, in addition to attitude, perceived behavioral control, and subjective norms, the model included environmental consciousness as a moderator. After presenting the obtained results, the discussion and conclusion follow.

Green banking concept

Although the idea itself emerged in 1968, the root of today's concept of green banking lies in the foundation of Triodos Bank in 1980; the name of this bank originated from the Greek "tri hodos", meaning "three-way approach" (planet, people, and profit) (Apostoaie et al., 2019).

Green banking (GB) has been associated with other terms, such as ethical banking, environment-friendly banking, and sustainable banking (Bouteraa et al., 2020). In accordance with Rajan (2020), it correlates with the term Corporate Social Responsibility (CSR), whereas the focus is on environmental protection and the reduction of carbon emissions from banking services. However, despite the fact that those terms can be used as synonyms, green banking, as well as social banking, ethical banking, and CSR can be viewed within the context of sustainable banking, which covers all three aspects: environmental, ethical, and social (Kumar and Prakash, 2019). It implies that banks should create an adequate business model based on components such as profit, people, as well as, the planet.

In regard to the GB concept, there are many explanations related to this term. Following the Green Banking Report, "GB refers to the implementation, support, and promotion of environmentally friendly practices and reduction of the carbon footprint in the internal and external operations of banks" (Apostoaie et al., 2019, p. 3). Park and Kim (2020, p. 4) defined green banking "as financing activities by banking and non-banking financial institutions with an aim to reduce greenhouse gas emissions and increase the resilience of the society to negative climate change impacts while considering other sustainable development goals such as economic growth, job creation, and gender equality". For Bhardwaj and Malhotra (2013, p. 181) GB represents "the banking business conducted in such areas and in such a manner that helps the overall reduction of external carbon emission and internal carbon footprint". According to Bukhari et al. (2022), green banking can be considered a banking ideology whose adoption should lead to the inclusion of environmental ethic values in everyday banking activities and its financing portfolio. As mentioned in the research of Ibe-enwo et al. (2019), a green bank refers to a value-driven banking system that fulfills customers' wants by providing the safeness of their investments, deposits, and the environment.

When it comes to green banking products and services, Park and Kim (2020) distinguished six main categories: loan, insurance, securitization, equity investment, brokerage and market-making, and technical assistance. In relation to individual clients, besides financing green start-ups and projects, special attention should be dedicated to personal loans for purchasing energy-efficient and eco-friendly products and vehicles.

Conceptual model and hypotheses

When analyzing green banking services, special attention should be dedicated to the demand side. Hence, there is a number of research in which the emphasis is on customers, i.e. on their intentions to use this type of service. Subjects of those were customers' awareness of the green banking concept (Pariag-Maraye et al., 2017), customers' perception of green banking practices (Rai et al., 2019), customer satisfaction (Bihade and Karande, 2020; Herath and Herath, 2019; Solekah, 2019; Sultana et al., 2021), and loyalty (Ibe-enwo et al., 2019; Solekah, 2019; Sun et al., 2020).

In addition, in certain studies, the emphasis was on customers' intention towards green banking services. Some of them were based on the application of the unified theory of acceptance and use of technology (UTAUT). Bouteraa et al. (2020) proposed a model, which in addition to customer intention consists of four UTAUT factors (performance expectancy, efforts expectancy, social influence, and facilitating condition) and religiosity. There is also a proposal according to which customer intention to adopt green banking can be determined by UTAUT factors and eight more variables, categorized into four main groups: individual dimensions (personal innovativeness, awareness, and perceived benefit), organization dimensions (system quality and top management support), technology (security & privacy) and environment (government support and vendor support) (Bouteraa et al., 2021).

Besides the UTAUT, the theory of planned behavior (TPB) was applied as well. In addition to intention and behavior, this theory includes three more variables: attitude toward the behavior, subjective norm (the perception of social pressure about performing or not performing the behavior), and the perception of behavioral control (Ajzen, 1991). The TPB approach has already been used in several studies for analyzing purchase intention and/or behavior regarding green products and services (Kamalanon et al., 2022; Liobikienė et al., 2016; Nimri et al., 2020; Ting et al., 2019; Vu et al., 2022; Wang and Wong, 2021; Yadav and Pathak, 2017). On this basis, Taneja and Ali (2021) investigated customer intention toward environmentally sustainable banking services. In addition to attitude, perceived behavioral control, and subjective norms (as main TPB antecedents of behavioral intention), their model included three more variables (trust, perceived environmental outcomes, and environmental consciousness).

Milicevic et al. (2023) also relied on the application of the TPB approach for examining the intention to use green banking services. The subjects of the analysis were the influences of four predictors – three TPB antecedents and environmental consciousness, with gender as a moderator.

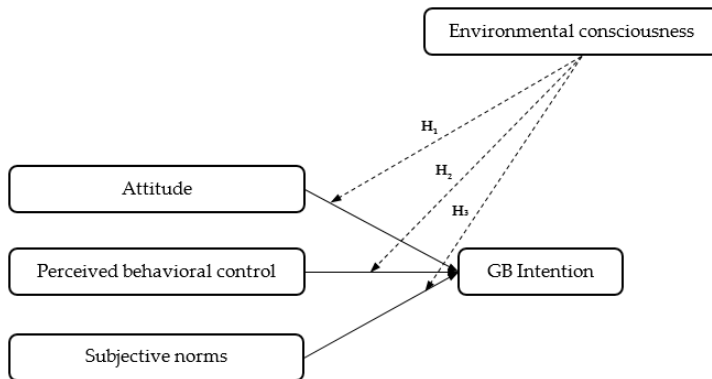
In studies related to green products or services, environmental consciousness, i.e. “the degree to which a person is oriented toward concern for the environment”

(Lin and Chang, 2012, p. 127), was not only used as a predictor, but as a moderator, as well. Lin and Chang (2012), among others, analyzed its moderating role in regular vs. green product usage. Garvey and Bolton (2017) have shown that environmental consciousness moderated the influence of eco-product choice on environmentally responsible behavior. The moderating role of environmental consciousness was examined in the context of behavioral intentions toward environmentally certified hotels (de Leaniz et al., 2018). Kautish et al. (2019) investigated moderating effects of environmental consciousness and recycling intentions on green purchase behavior in light of TPB theory, whereby significant moderations of environmental consciousness were detected in the relationship between perceived consumer effectiveness and green purchase behavior, as well as between willingness to be environmentally friendly and green purchase behavior.

Relying on the research of Milicevic et al. (2023), we set the model presented in Figure 1. Bearing in mind that relations between TPB predictors and behavioral intention have already been examined in the previously mentioned study, the focus of this paper was on moderating effects. Hence, we tested the following hypotheses:

- H₁. Environmental consciousness moderates the effect of attitude on customer intention toward green banking services.
- H₂. Environmental consciousness moderates the effect of perceived behavioral control on customer intention toward green banking services.
- H₃. Environmental consciousness moderates the effect of subjective norms on customer intention toward green banking services.

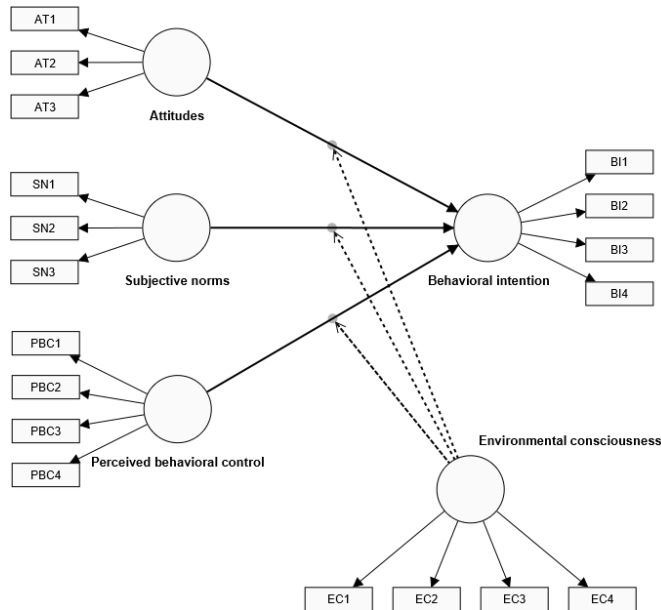
Figure 1. Conceptual model



Materials and Methods

In the research, we used the convenience sample which consisted of 733 respondents from the Autonomous Province of Vojvodina (Republic of Serbia). On average, they were more than 34 years old, whereby the majority of them (about 65%) were female. Data were processed in SmartPLS 4 software in 2024.

Figure 2. Statistical model



Our statistical model (presented in Figure 2) included behavioral intention (BI), as an independent construct; attitude (AT), perceived behavioral control (PBC), and subjective norms (SN), as its main predictors; and environmental consciousness (EC), as a moderator.

The items used in the research were assessed on a five-point Likert scale (from “strongly disagree” to “strongly agree”). Four of five constructs (perceived behavioral control (PBC1 – PBC4), subjective norms (SN1 – SN3), attitude (AT1 – AT3), and behavioral intention (BI1 – BI4)) were measured in accordance with Taneja and Ali (2021), while for measuring environmental consciousness (EC1 – EC4), we relied on Costa et al. (2021).

The mentioned constructs were treated as reflective, because of which, the subjects of the analysis were individual indicator reliability (assessed by outer loadings), internal consistency reliability (assessed by composite reliability (CR)), convergent validity (assessed by average variance extracted (AVE)) and discriminant validity (assessed by the use of HTMT approach) (Hair et al., 2017).

On the level of a structural model, we checked for potential multicollinearity issues by examining the inner VIF values of predictor constructs. To test the

hypotheses, we considered the significance of path coefficients regarding three interaction terms (AT*EC, PBC*EC, and SN*EC), as well as their substantialness by examining the f^2 effect sizes (Becker et al., 2023).

Results and discussion

All reflective constructs (behavioral intention, attitude, subjective norms, perceived behavioral control, and environmental consciousness) have been tested for reliability and validity. These results are presented in Table 1.

Table 1. Reflective constructs - quality criteria

Constructs and items	Loadings	AVE	CR
Perceived behavioral control		0.737	0.918
PBC1	0.805		
PBC2	0.905		
PBC3	0.897		
PBC4	0.822		
Subjective norms		0.655	0.850
SN1	0.887		
SN2	0.803		
SN3	0.731		
Attitude		0.675	0.862
AT1	0.798		
AT2	0.786		
AT3	0.879		
Behavioral intention		0.759	0.926
BI1	0.846		
BI2	0.889		
BI3	0.900		
BI4	0.849		
Environmental consciousness		0.726	0.914
EC1	0.820		
EC2	0.856		
EC3	0.864		
EC4	0.867		

Source: Authors

Outer loadings for all indicators were higher than 0.7, confirming individual indicator reliability. In addition, AVE and CR values were also satisfactory, i.e. higher than 0.5 and 0.7, respectively.

The results of discriminant validity testing are presented in Table 2.

Table 2. Discriminant validity - HTMT approach

	HTMT
Behavioral intention -> Attitude	0.712
Environmental consciousness -> Attitude	0.307
Environmental consciousness -> Behavioral intention	0.281
Perceived behavioral control -> Attitude	0.314

Perceived behavioral control -> Behavioral intention	0.377
Perceived behavioral control -> Environmental consciousness	0.108
Subjective norms -> Attitude	0.560
Subjective norms -> Behavioral intention	0.342
Subjective norms -> Environmental consciousness	0.055
Subjective norms -> Perceived behavioral control	0.577

Source: Authors

As HTMT values for all pairs were below the threshold of 0.85, it can be concluded that discriminant validity was established.

The R^2 value equaled 0.415. When it comes to multicollinearity, there were no issues bearing in mind that all inner VIF values were lower than 5. Coefficients for each relation, followed by their p-values are presented in Table 3.

Table 3. Path coefficients – Hypotheses testing

Path coefficients	Direct effect	p-value
Attitude → Behavioral intention	0.522	0.000
Perceived behavioral control → Behavioral intention	0.238	0.000
Subjective norms → Behavioral intention	-0.050	0.167
AT*EC → Behavioral intention	-0.045	0.091
PBC*EC → Behavioral intention	0.063	0.071
SN*EC → Behavioral intention	-0.045	0.219

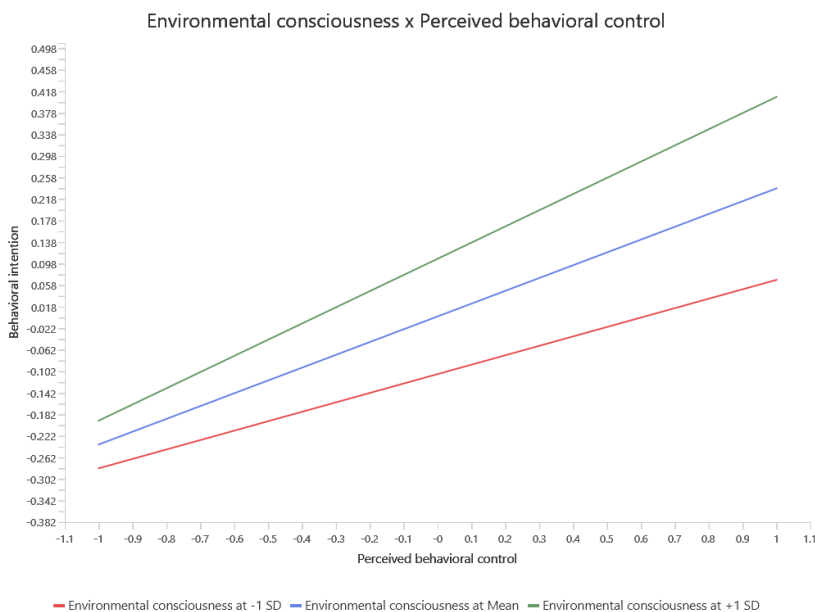
Source: Authors

In the case of main TPB predictors, positive effects on behavioral intention were recorded for attitude and perceived behavioral control. These effects were also significant with p lower than 0.05. On the other hand, subjective norms had a negative influence on behavioral intention with a p-value higher than 0.05. Bearing in mind that all three coefficients were obtained in the model which included the moderator, they present „simple effects“, and can be used for interpreting the results of moderation analysis (Hair et al., 2017).

When it comes to interaction terms, two of them (AT*EC and SN*EC) negatively affected behavioral intention, while the effect of PBC*EC was positive. However, their p-values were higher than 0.05, whereas, for AT*EC and PBC*EC, they were below 0.1. Additionally, we checked whether those two effects were substantial, by analyzing their f^2 effect sizes. The f^2 value exceeded the lower bound of 0.005 only in the case of the PBC*EC interaction term. As it equaled 0.006, this effect was considered weak (Becker et al., 2023). Hereby, with a certain level of caution, only hypothesis H₂ could be confirmed. Therefore, following Hair et al. (2017), if the mean value of environmental consciousness increases by one standard deviation (SD), the relation between PBC and behavioral intention would increase to a value of 0.301 (0.238 + 0.063). This can

also be seen in Figure 3, where the green line (environmental consciousness at + 1 SD) is steeper than the blue line (environmental consciousness at mean).

Figure 3. Simple slope analysis



Regarding similar studies, when examining the moderating effects of environmental consciousness, Kautish et al. (2019), among others, found a positive and significant influence of PBC on green purchase behavior in the case of high environmental consciousness consumer group, while in the case of low environmental consciousness group, it was insignificant.

Conclusions

To protect the environment, customers, as well as different organizations need to change their activities – to become greener. Among them, a special place belongs to banks, which both directly and indirectly can contribute to achieving sustainable development goals. Through the provision of green services, banks may bring many benefits, not only environmental-related but those associated with customers as well.

Hence, the paper examined behavioral intention toward green banking services in light of the theory of planned behavior, including moderating effects of environmental consciousness. As the impacts of attitudes, perceived behavioral control, and subjective norms on behavioral intention have already been examined, the focus of the research was on moderation. The results have shown that environmental consciousness moderated the relationship between perceived behavioral control and behavioral intention. Therefore, although people may have the resources and knowledge needed to adopt green banking services, the impact

on behavioral intention depends on their level of environmental consciousness. Hereby, the increase in environmental consciousness strengthens the effect of PBC on behavioral intention.

Keeping in mind the obtained results, banks should pay attention to educating and informing people about the concept of green banking. For this purpose, they can use different media, such as websites, social networks, etc. Certain lectures and presentations concerning green banking could be organized in cooperation with educational institutions. In addition, the focus should be on facilitating the use of these types of services and technologies, as well as on the availability of conditions required for their application (Taneja and Ali, 2021).

Acknowledgment

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KREDITNI PROGRAM ZA UNAPREĐENJE ENERGETSKE EFIKASNOSTI U DOMAĆINSTVIMA: ANALIZA I PERSPEKTIVE

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Apstrakt

Usled nedostatka finansijskih sredstava i visokih početnih troškova investicije u energetske efikasne tehnologije značajni potencijali za uštedu energije u domaćinstvima se ne koriste. Za prevazilaženje finansijskih prepreka u bankocentričnim finansijskim sistemima ključni su krediti za energetske efikasne domaćinstva. U radu se analizira korišćenje ovih kredita u zemljama Zapadnog Balkana i razmatraju primeri uspešne prakse sa ciljem utvrđivanja mogućnosti za unapređenje programa za zeleno finansiranje i energetske efikasnosti domaćinstava. Primeri uspešne prakse u domaćinstvima analizirani su korišćenjem metode studija slučaja, analize sadržaja i metode komparacije. Rezultati istraživanja pokazuju da su krediti za energetske efikasne domaćinstva i podsticaji Evropske unije motivisali domaćinstva da koriste energetske efikasne tehnologije. Inovativne tehnologije omogućile su uštedu energije, finansijske uštede i smanjenje emisije ugljen-dioksida (CO₂).

Ključne reči: kreditne linije, zelene finansije, energetska efikasnost, domaćinstva, Zapadni Balkan

JEL: F33, G21, O13

Uvod

Posledice globalnog zagrevanja i aktuelna energetska kriza pokazali su da je unapređenje energetske efikasnosti značajno u svim zemljama (Nikolić, Milojković, 2023; Nikolić et al., 2024), a posebno u onima u kojima je energetska intenzitet viši od proseka Evropske unije (EU) i zemljama koje su zavisne od uvoza energije. Najveća globalna potrošnja energije u svetu zabeležena je u gradovima, gde se troši više od 2/3 globalne energije. Prema procenama, urbane oblasti doprinose 70% globalnoj CO₂, pri čemu najveći uticaj na to imaju saobraćaj i izgradnja (UN Environment Programme, 2024; UN Environment Programme, 2024a). Uvođenje energetske efikasne tehnologije u domaćinstvima u gradovima može značajno smanjiti potrošnju energije i emisiju CO₂. Time se doprinosi održivom razvoju (Ignjatijević et al., 2020).

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U zemljama Zapadnog Balkana (Srbiji, Crnoj Gori, Bosni i Hercegovini, Severnoj Makedoniji i Albaniji) prosek energetskeg intenziteta je 3 puta veći od proseka Evropske unije. Prema procenama Svetske banke, 35% ukupne potrošnje energije u domaćinstvima može da se uštedi (European Commission, 2016). Imajući u vidu ove podatke i činjenicu da se prekomerno troši energija koja je skupa, potrebno je analizirati mogućnosti da se njena potrošnja racionalizuje i da se energetska miks u sektoru domaćinstva promeni. U ovim zemljama je i visoka emisija CO₂ (Janković & Golubović, 2024).

Nedostatak finansijskih sredstava za investiranje u energetske efikasnije tehnologije, visoki početni troškovi, dug period povraćaja investiranih sredstava, nedostatak informacija i nizak nivo svesti stanovništva najčešće su prepreke za unapređenje energetske efikasnosti u sektoru domaćinstva (Arakkal, 2021; Hesselink, Chappin, 2019; Caird et al., 2008). U zemljama sa bankocentričnim finansijskim sistemima banke imaju značajnu ulogu u povećanju energetske efikasnosti u domaćinstvima (Migliorelli, Dessertine, 2019; Vesić et al., 2023).

Bankocentričnost finansijskog sistema je evidentna u zemljama Zapadnog Balkana. Banke su posrednici između finansijski suficitarnih i finansijski deficitarnih transaktora i imaju ključnu ulogu u unapređenju energetske performansi domaćinstava u ovim zemljama (Nikolić et al., 2024). Kao partnerske finansijske institucije u programu za zeleno finansiranje one omogućavaju da se sredstava iz kreditne linije za zeleno finansiranje (Green Economy Financing Facility - GEFF) plasiraju domaćinstvima putem kredita za energetske efikasnost (Stojanović, 2020). U ovom radu analizira se korišćenje kredita za energetske efikasnost za investiranje u energetske efikasne tehnologije u domaćinstvima u zemljama Zapadnog Balkana.

Ostatak rada podeljen je na sledeći način. U prvom delu rada ukazuje se na cilj istraživanja i metodologiju koja je korišćena za analizu kredita za energetske efikasnost u zemljama Zapadnog Balkana. Rezultati analize i diskusija predstavljeni su u drugom delu rada. Zaključci istraživanja zajedno sa preporukama i ograničenjima istraživanja dati su u poslednjem delu rada.

Cilj rada i korišćena metodologija

Evropska banka za obnovu i razvoj (European Bank for Reconstruction and Development - EBRD) je 2013. godine uz podršku Evropske unije i partnerstvom sa Sekretarijatom energetske zajednice (Energy Community Secretariat - ECS) pokrenula Regionalni program za energetske efikasnosti (Regional Energy Efficiency Programme – REEP) za zemlje Zapadnog Balkana. Nakon uočavanja brojnih prepreka za unapređenje energetske efikasnosti domaćinstva u ovim zemljama u okviru REEP Plus programa, obezbeđene su kreditne linije za domaćinstva za zemlje Zapadnog Balkana (Western Balkans Sustainable Energy Financing Facility - WeBSEFF- Residential), kako bi se stimulisala da koriste

energetski efikasnije tehnologije (European Commission, 2016). U okviru ovog programa realizuje se kreditna linija za zeleno finansiranje na Zapadnom Balkanu od 2017. godine. Finansiranje domaćinstava putem GEFF-a u ovim zemljama vrši se preko lokalnih partnerskih finansijskih institucija (banaka) koje fizičkim licima koja zadovoljavaju utvrđene kriterijume prihvatljivosti odobravaju sredstva iz ovog programa (GEFF Serbia, 2024b). Domaćinstvima koja koriste ove kreditne linije odobravaju se i podsticaji od strane EU u vrednosti do 20%, dok je za stambene zgrade vrednost podsticaja do 35% prihvatljivih troškova (GEFF Serbia, 2024).

Do sada je više od 18000 domaćinstava na Zapadnom Balkanu investiralo preko 100 miliona eur u energetski efikasne tehnologije. Investicije u nove tehnologije omogućile su uštedu energije od 70000 MWh/god. i smanjenje emisije CO₂ za 25000 t/god. (GEFF, 2024).

U radu se analiziraju studije slučaja domaćinstava zemalja Zapadnog Balkana kako bi se utvrdile mogućnosti za unapređenje programa za zeleno finansiranje i energetske efikasnosti domaćinstava.

Analiza se zasniva na sekundarnim podacima GEFF-a zemalja Zapadnog Balkana koje su objavile studije slučaja za domaćinstva – Srbije, Bosne i Hercegovine i Severne Makedonije. Za teorijsku i empirijsku analizu energetske efikasnosti i finansiranja energetski efikasne tehnologije korišćen je metod analize. Primeri uspešne praksi domaćinstava u izabranim zemljama analizirani su primenom metode studije slučaja, metoda analize sadržaja i metoda komparacije.

Hipotetičko-deduktivna metoda korišćena je prilikom definisanja i provere sledećih hipoteza:

- H1: Krediti za energetsku efikasnost zemalja Zapadnog Balkana i finansijski podsticaji EU motivišu domaćinstva da koriste energetski efikasne tehnologije;
- H2: Broj domaćinstva koja koriste kredite za energetsku efikasnost se povećava;
- H3: Investicije u energetski efikasne tehnologije omogućavaju uštede energije i finansijske uštede u domaćinstvu, i smanjenje zagađenja životne sredine.

Za sumiranje rezultata, donošenje zaključaka i davanje preporuka korišćena je metoda sinteze.

Rezultati i diskusija

Analiza uspešnih primera domaćinstva koja su koristila kredite za energetsku efikasnost i dobile podsticaje EU obuhvatila je 13 studije slučaja (12 domaćinstva i 1 stambenu zgradu) u tri zemlje Zapadnog Balkana – Srbiju, Bosnu i Hercegovinu i Severnu Makedoniju. GEFF program za Zapadni Balkan u okviru koga su odobreni krediti za energetsku efikasnost analiziranim domaćinstvima podržan je od strane Evropske unije, Saveznog Ministarstva Austrije i

Investicionog okvira za Zapadni Balkan (Western Balkan Investment Framework –WBIF).

Srbija

Studije slučaja domaćinstava koja su koristila kredite za energetska efikasnost GEFF programa za Zapadni Balkan u Srbiji pojavile su se među prvima. Analizom su obuhvaćena 4 domaćinstva čije su studije slučaja objavljene u periodu od 2019-2023. godine (*Tabela 1.*).

Sa ciljem smanjenja troškova grejanja tokom zime domaćinstvo Grubac iz Beograda odlučilo je da kotao na drva zameni novim kotlom na biomasu. Koristeći kredit za energetska efikasnost investirali su 3070 eur u ovaj kotao. Pored kredita, porodica Grubac je dobila i podsticaj u vrednosti od 460 eur. Investicija u energetska efikasnije grejanje omogućila je uštedu energije od 2,40 MWh/god. i smanjenje troškova grejanja. Smanjena je i emisija CO₂, a time i zagađenje životne sredine (GEFF Serbia, 2019).

Domaćinstvo Stojković iz Sremske Mitrovice odlučilo je da smanji potrošnju energije prilikom gradnje nove kuće. Investirali su u toplotnu izolaciju i visoko energetska efikasne PVC prozore i vrata. Porodica Stojković je dobila kredit za energetska efikasnost u vrednosti od 3700 eur i podsticaj u vrednosti od 740 eur. Korišćenje energetska efikasnih tehnologija omogućilo je uštedu energije od 5,00 MWh/god., uštedu novca, povećanje komfora i smanjenje zagađenja životne sredine (GEFF Serbia, 2019a).

U nameri da postane energetska nezavisno i da smanji zagađenje životne sredine domaćinstvo Rađenović iz Beograda ugradilo je solarne panele u porodičnoj kući. Finansiranje solarnih panela vršili su iz kredita za energetska efikasnost u vrednosti od 9000 eur i podsticaja od 1600 eur. Nakon instaliranja nove tehnologije ovo domaćinstvo se u potpunosti napaja električnom energijom iz solarnih panela i nema dodatne troškove za električnu energiju. Godišnje uštede energije procenjene su na 4,65 MWh, a očekivani period povraćaja uložених sredstava je 7-10 godina (GEFF Serbia, 2022).

Domaćinstvo Đukanović iz Beograda je 2022. godine pokrenulo adaptaciju svoje kuće od 250 m² ulaganjem u energetska efikasne tehnologije. Cilj ove investicije bio je da se smanji potrošnja energije, pronađu održiva energetska rešenja i poboljša komfor tokom zime. Dobili su dva kredita za energetska efikasnost u ukupnoj vrednosti od 31000 eur i podsticaj od 5800 eur (GEFF Serbia, 2023). Sredstva su investirali u toplotnu pumpu, podno grejanje, solarne panele i energetska efikasne prozore. Nakon završenih radova, kuća je doživela potpunu transformaciju – ostvarena je ušteda energije od 7,80 MWh/god., smanjeni su troškovi grejanja, povećan je komfor u kući i smanjena je emisija CO₂ za 3,60 t/god. Zahvaljujući ovim uštedama procenjuje se da će se investirana sredstva vratiti za 7 godina (GEFF Serbia, 2023).

Tabela 1. Studije slučaja domaćinstava koja su koristila kredite za energetske efikasnosti u Srbiji

Investitor	Lokacija	Investicija	Vrednost investicije i granta (eur)	Finansijski rezultati (PPI)*	Ušteda energije (MWh/god)	Smanjena emisija CO ₂ (t/god)
Domaćinstvo Grubac	Beograd	Kotao na biomasu	3 070 460	-	2,40	-
Domaćinstvo Stojković	Sremska Mitrovica	Toplotna izolacija, PVC prozori	3 700 740	-	5,00	-
Domaćinstvo Rađenović	Beograd	Solarni paneli	9 000 1 600	7-10 god.	4,65	-
Domaćinstvo Đukanović	Beograd	Solarni paneli, toplotna pumpa, podno grejanje, PVC prozori	31 000 5 800	7 god.	7,80	3,60

Izvor: Ilustracija autora na osnovu: GEFF Serbia, 2024a

Napomena: * period povraćaja investicije (godine)

Bosna i Hercegovina

Najveći broj primera uspešne prakse unapređenja energetske efikasnosti domaćinstava zabeležen je u Bosni i Hercegovini. Analizirane studije domaćinstava koja su koristila kredite za energetske efikasnosti GEFF programa u periodu od 2018-2020. godine obuhvatile su 6 domaćinstava i 1 stambenu zgradu (Tabela 2.).

U domaćinstvu u Ustikolini, domaćin Tešević renovirao je porodičnu kuću u kojoj provodi svoje slobodno vreme. Nakon što je investirao 5700 eur u toplotnu izolaciju i kotao na pelet, ova kuća je potpuno transformisana u energetske efikasnu kuću koja je toplija i komfornija. Za nabavku ovih tehnologija koristio je kredit za energetske efikasnosti i dobio podsticaj od 1000 eur. Procenjene uštede energije na godišnjem nivou su 6,00 MWh. Korišćenje kotla na pelet umesto kotla na drva doprinelo je smanjenju zagađenja životne sredine (GEFF Bosnia and Herzegovina, 2018c).

Porodica Lalović iz Istočnog Sarajeva zamenila je kotao na drva i ugalj novim kotlom na pelet korišćenjem kredita za energetska efikasnost. Investirali su 1360 eur u kotao na pelet i dobili podsticaj od 200 eur. Izvršene promene omogućile su smanjenje potrošnje energije za oko 1,06 MWh/god. i povraćaj investicije za 2 godine. Uvođenje energetska efikasne tehnologije doprinelo je smanjenju emisije CO₂ za 0,41 t/god. (GEFF Bosnia and Herzegovina, 2018).

Sa ciljem da obezbedi bolju toplotnu i zvučnu izolaciju, domaćin porodice Kamarić u Visokom zamenio je drvene prozore i vrata iz 80-ih godina PVC vratima i PVC prozorima sa troslojnim staklom. Korišćenjem kredita za energetska efikasnost investirao je 2711 eur u energetska efikasniju tehnologiju i dobio podsticaj od 407 eur. Zamenjena stolarija omogućila je smanjenje potrošnje energije za 1,13 MWh/god. i po tom osnovu finansijske uštede. Promenjen je vizuelni izgled kuće koja je sagrađena 60-ih godina prošlog veka (GEFF Bosnia and Herzegovina, 2018a).

Investicijom od 3656 eur u toplotnu pumpu domaćinstvo *Božić* iz Mostara unapredilo je energetska efikasnost svog doma, obezbedilo jednostavnije i jeftinije grejanje tokom zime, ali i hlađenje tokom leta. Nakon investiranja u energetska efikasne tehnologije dobili su podsticaj od 548 eur. Novi način grejanja omogućio im je uštedu energije od 0,70 MWh/god. i veći komfor u domaćinstvu (GEFF Bosnia and Herzegovina, 2018b).

Višestrukim merama za unapređenje energetska efikasnosti – ugradnjom PVC prozora i PVC vrata, toplotnom izolacijom i nabavkom kotla na pelet (biomasu), porodica Maslić iz Šamca omogućila je brže i bolje zagrevanje svog stambenog prostora, ostvarenje uštede energije i stvaranje boljih uslova za život (GEFF Bosnia and Herzegovina, 2019a). Investicija u nove energetska efikasne tehnologije realizovana je korišćenjem kredita za energetska efikasnost u vrednosti od 5110 eur. Porodica Maslić je za ovu investiciju dobila podsticaj u vrednosti od 1000 eur. Rezultat korišćenja nove tehnologije je ušteda energije od 3,60 MWh/god. Kako su korišćenje uglja zamenili peletom i racionalizovali potrošnju energije, smanjena je i emisija CO₂ i zagađenje životne okoline (GEFF Bosnia and Herzegovina, 2019a).

Sa ciljem smanjenja troškova grejanja domaćin Omerović investirao je 3650 eur u kotao na pelet. Sredstva za ovu investiciju obezbedio je iz kredita za energetska efikasnost, a nakon instalacije kotla dobio je podsticaj u vrednosti od 530 eur. Zamenom kotla na drva kotlom na pelet ovo domaćinstvo ostvarilo je uštedu energije od 2,80 MWh/god., koja je praćena i finansijskim uštedama. Pored toga, smanjeno je zagađenje životne sredine usled smanjenja emisije CO₂ za 1,07 t/god. (GEFF Bosnia and Herzegovina, 2019).

Korišćenjem kredita za energetska efikasnost adaptirana je višespratna zgrada u Sarajevu. Sa ciljem unapređenja energetska investirano je 34000 eur u toplotnu

izolaciju i PVC prozore. Stanari zgrade dobili su podsticaj od 11000 eur. Nove tehnologije uticale su na smanjenje potrošnje energije za 43,62 MWh/god. i troškova energije. Usled unapređenja energetske efikasnosti, smanjena je emisija CO₂ za 8,77 t/god. (GEFF Bosnia and Herzegovina, 2020).

Tabela 2. Studije slučaja domaćinstava koja su koristila kredite za energetska efikasnost u Bosni i Hercegovini

Investitor	Lokacija	Investicija	Vrednost investicije i granta (eur)	Finansijski rezultati (PPI/ušteta) *	Ušteta energije (MWh/god)	Smanjena emisija CO ₂ (t/god)
Domaćinstvo Tešević	Ustikolina	Toplotna izolacija, kotao na pelet	5 700 1 000	-	6,00	-
Domaćinstvo Lalović	Istočno Sarajevo	Kotao na pelet	1 360 200	2 god.	1,06	0,41
Domaćinstvo Kamarić	Visoko	PVC prozori i vrata	2 711 407	-	1,13	-
Domaćinstvo Božić	Mostar	Toplotna pumpa	3 656 548	250 eur	0,70	-
Domaćinstvo Maslić	Šamac	PVC prozori i vrata, kotao na biomasu, toplotna izolacija	5 110 1 000	-	3,60	-
Domaćinstvo Omerović	Tuzla	kotao na pelet	3 650 530	-	2,80	1,07
Stambena zgrada	Sarajevo	Toplotna izolacija, PVC prozori	34 000 blizu 11 000	-	43,62	8,77

Izvor: Ilustracija autora na osnovu: GEFF Bosnia and Herzegovina, 2024

Napomena: * period povraćaja investicije (godine) ili ušteta (eur)

Severna Makedonija

Domaćinstva koriste oko 40% ukupne električne energije u Severnoj Makedoniji (GEFF North Macedonia, 2020a). Od energetske neefikasnosti zgrada potiče oko 40% emisija gasova sa efektom staklene bašte (GEFF North Macedonia, 2020). Potencijal za uštedu energije u domaćinstvima, finansijske uštete i smanjenja zagađenja životne sredine je veliki. Analizom studija slučaja u ovoj zemlji obuhvaćena su dva domaćinstva koja su koristila kredite za energetska efikasnost i njima finansirala nekoliko energetske efikasne tehnologije (Tabela 3.).

Porodica Janakievski iz Skoplja investirala je 19500 eur u toplotnu pumpu, izolaciju krova i ugradnju novih prozora u porodičnoj kući sagrađenoj 80-ih godina. Za investiciju su koristili kredit za energetske efikasnost. Domaćinstvo Janakievski je dobilo podsticaj od 3900 eur. Nakon unapređenja energetske efikasnosti ovog domaćinstva porodica je ostvarila uštedu energije od 11,16 MWh/god. Energetski efikasne tehnologije doprinele su i smanjenju emisije CO₂ za 2,55 t/god. (GEFF North Macedonia, 2020a).

Sa ciljem izgradnje energetski efikasne kuće u domaćinstvu Popov iz Skoplja instalirana je toplotna pumpa, završena je izolacija zidova i krova i postavljeni su energetski efikasni prozori. Investicija u ove tehnologije u vrednosti od 41800 eur finansirana je iz kredita za energetske efikasnost. Vrednost podsticaja za ovu investiciju bila je 8360 eur. Preduzete mere za unapređenje energetske efikasnosti ovom domaćinstvu obezbedile su uštedu energije od 86 MWh/god., a smanjeno je i zagađenje životne sredine (GEFF North Macedonia, 2020).

Tabela 3. Studije slučaja domaćinstava koja su koristila kredite za energetske efikasnost u Severnoj Makedoniji

Investitor	Lokacija	Investicija	Vrednost investicije i granta (eur)	Finansijski rezultati (PPI)*	Ušteda energije (MWh/god)	Smanjena emisija CO ₂ (t/god)
Domaćinstvo Janakievski	Skoplje	Toplotna pumpa, izolacija krova, prozori	19 500 3 900	-	11,16	2,55
Domaćinstvo Popov	Skoplje	Toplotna pumpa, izolacija, prozori	41 800 8 360	-	86,00	-

Izvor: Ilustracija autora na osnovu: GEFF North Macedonia, 2024

Napomena: * period povraćaja investicije (godine)

Analiza studija slučaja domaćinstava u zemljama Zapadnog Balkana pokazala je da su zastupljene studije slučaja porodica koje žive u glavnim gradovima (*Tabela 4.*). U Srbiji je 75% domaćinstava iz glavnog grada, dok je u Severnoj Makedoniji 100%. Za razliku od ovih zemalja, u Bosni i Hercegovini postoje studije slučajeva iz različitih gradova i teritorijalno su podjednako zastupljene. Značaj preduzimanja mera unapređenja energetske efikasnosti u velikim i glavnim gradovima je veliki, zato što je u njima najveće zagađenje životne sredine. Intenziviranje preduzetih mera uz korišćenje kredita za energetske efikasnost i podsticaja EU u ovim gradovima je neophodno. Sa druge strane, postojanje primera uspešne implementacije mera energetske efikasnosti i ušteda u manjim

mestima utiče na razvoj svesti ljudi koji žive u različitim delovima zemlje o prednostima korišćenja energetski efikasnih tehnologija, mogućnostima i uslovima njihovog finansiranja iz kredita za energetsku efikasnost i sredstava podsticaja.

Tabela 4. Pregled studija slučaja prema geografskoj lokaciji u posmatranim zemljama

Domaćinstva u glavnim gradovima				Domaćinstva u ostalim gradovima			
Grad	Domaćinstvo	Broj	%	Grad	Domaćinstvo	Broj	%
Beograd	Grubac Rađenović Đukanović	3	75	Sremska Mitrovica	Stojković	1	14
Sarajevo	Stambena zgrada	1	17	Istočno Sarajevo	Lalović	1	14
Skoplje	Janakievski Popov	2	100	Ustokolina	Tešević	1	14
				Visoko	Kamarić	1	14
				Mostar	Božić	1	14
				Šamac	Maslić	1	14
				Tuzla	Omerović	1	14
Ukupno		6	46	Ukupno		7	54

Izvor: Ilustracija autora na osnovu: GEFf Serbia, 2024a; GEFf Bosnia and Herzegovina, 2024; GEFf, North Macedonia, 2024

Za unapređenje energetske efikasnosti korišćene su različite tehnologije (*Tabela 5.*). Najveći broj domaćinstava promenio je način grejanja - kotao na drva ili ugalj zamenjen je kotlom na biomasu (pelet) ili toplotnom pumpom. U posmatranim zemljama bilo je 9 domaćinstava koja su koristila ove tehnologije. Slede tehnologije koja se odnose na ugradnju PVC prozora i vrata i toplotnu izolaciju, koje su, takođe, zastupljene u svim analiziranim zemljama. U 6 domaćinstava i 1 višespratnoj stambenoj zgradi stari prozori i vrata zamenjeni su PVC prozorima i vratima, pri čemu su ove tehnologije podjednako korišćene u domaćinstvima u svim zemljama. Tehnologije koje se odnose na unapređenje toplotne izolacije zidova i krovova korišćene su u 5 domaćinstava i 1 stambenoj zgradi. Solarni paneli su ugrađeni samo u 2 domaćinstva u Srbiji. U ostalim studijama slučaja nije bila zastupljena ova tehnologija.

Kredit za finansiranje energetski efikasnih tehnologija u Srbiji i Severnoj Makedoniji su koristila samo domaćinstva, dok je u Bosni i Hercegovini ovaj kredit korišćen za adaptaciju u domaćinstvima i za adaptaciju 1 višespratne stambene zgrade. Imajući u vidu da je podsticaj za investicije u energetski

efikasne tehnologije najveći za stambene zgrade, može se zaključiti da upravnici stambenih zgrada još uvek ne koriste ove finansijske pogodnosti.

Tabela 5. Pregled studija slučaja prema vrsti tehnologije u posmatranim zemljama

Tehnologija	Ukupno	Broj domaćinstava	Broj stambenih zgrada	Zemlja
Solarni paneli	2	2	-	Srbija
		-	-	Bosna i Hercegovina
		-	-	Severna Makedonija
Toplotna izolacija	6	1	-	Srbija
		2	1	Bosna i Hercegovina
		2	-	Severna Makedonija
PVC prozori i vrata	7	2	-	Srbija
		2	1	Bosna i Hercegovina
		2	-	Severna Makedonija
Toplotne pumpe, kotlovi, podno grejanje	9	2	-	Srbija
		5	-	Bosna i Hercegovina
		2	-	Severna Makedonija

Izvor: Ilustracija autora na osnovu: GEFF Serbia, 2024a; GEFF Bosnia and Herzegovina, 2024; GEFF, North Macedonia, 2024

Posmatranjem studija slučaja prema vrednosti investicija, može se uočiti da su najveće investicije zabeležene kod domaćinstava u Severnoj Makedoniji, koja su koristila nekoliko tehnologija za unapređenje energetske efikasnosti svojih domova (toplotnu izolaciju zidova i krovova, zamenu prozora i vrata i zamenu načina grejanja – instaliranje toplotnih pumpi). Zatim slede domaćinstava iz Srbije koja su instalirala solarne panele i druge energetske efikasne tehnologije. Visoka vrednost investicije u Bosni i Hercegovini evidentirana je samo kod studije slučaja koja se odnosi na višespratnu stambenu zgradu (*Tabela 6.*).

Najveće uštede energije u analiziranim studijama slučaja ostvarene su u Severnoj Makedoniji, gde je primenjeno nekoliko tehnologija u svakom od analiziranih domaćinstava. Ostvarene uštede se kreću u rasponu od 11,16-86,00 MWh/god. Značajne uštede energije ostvarene su i u Bosni i Hercegovini (43,62 MWh/god.) gde je adaptirana zgrada primenom nekoliko tehnologija radi unapređenja energetske efikasnosti. U domaćinstvima u Srbiji i u Bosni i Hercegovini je

ostvarena ušteda do 8, odnosno 6 MWh/god., respektivno. Uprkos malim vrednostima pojedinačnih ušteda u domaćinstvu, mogućnosti za uštedu energije u domaćinstvima su velike zbog brojnosti domaćinstava, posebno u velikim gradovima.

Tabela 6. Pregled studija slučaja prema vrednosti investicije i uštedi energije u posmatranim zemljama

Pokazatelji	Zemlja		
	Srbija	Bosna i Hercegovina	Severna Makedonija
Vrednost investicije (eur)	3 070-31 000	1 360-5 700 34 000*	19 500-41 800
Ušteda energije (MWh/god.)	2,7-7,8	0,70-6,00 43,62*	11,16-86,00

Izvor: Ilustracija autora na osnovu: GEFf Serbia, 2024a; GEFf Bosnia and Herzegovina, 2024; GEFf, North Macedonia, 2024

Napomena: * podaci za stambenu zgradu

Zaključak

Rezultati analize studija slučaja domaćinstava u Srbiji, Bosni i Hercegovini i Severnoj Makedoniji pokazali su da su krediti za energetske efikasnosti i podsticaji EU ohrabрили domaćinstva da započnu investiranje u energetske efikasnije tehnologije. Sve veći broj domaćinstava koristi kredite za energetske efikasnosti i podsticaje.

Investicije u pomenute tehnologije, omogućile su im da smanje potrošnju energije, uz održavanje uobičajene temperature i povećanje komfora. Uprkos nedostatku podataka o finansijskim efektima ostvarenih ušteda energije, može se zaključiti da postoje i značajne finansijske uštede u svim domaćinstvima usled smanjenja potrošnje energije. Primeri uspešnog investiranja u energetske efikasne tehnologije ovih domaćinstava i stambene zgrade mogu podstaći i druga domaćinstva i upravne stambenih zgrada da koriste kredite za energetske efikasnosti i podsticaje EU za finansiranje visokih početnih troškova uvođenja ovih tehnologija. Na osnovu raspoloživih podataka 1/3 analiziranih domaćinstava o smanjenju emisije CO₂ može se zaključiti da koristi od unapređenja energetske efikasnosti domaćinstva postoje i za društvo. U prilog tome je i činjenica da se u velikom broju domaćinstava promenio način grejanja - kotlovi na drva i ugalj zamenjeni su kotlovima na biomasu (pelet).

Povećanjem broja studija slučaja o uspešnoj implementaciji energetske efikasne tehnologije u domaćinstvima i uštedama koje se po ovom osnovu ostvaruju

ostvariće se pozitivan uticaj na svest ljudi o potrebi za investicijama u ove tehnologije. Po tom osnovu može se očekivati povećanje broja domaćinstava koja investiraju u ove tehnologije i koriste kreditne programe za unapređenje energetske efikasnosti svoji domova.

Sa ciljem popularizacije kreditne linije za zeleno finansiranje (GEFF) za uvođenje energetski efikasnih tehnologija u domaćinstvima i stambenim zgradama na Zapadnom Balkanu, potrebno je kontinuirano objavljivati i analizirati studije slučaja. Pored finansijske podrške domaćinstvima i upravicima stambenih zgrada treba pružiti savetodavnu podršku prilikom utvrđivanja efekata finansijskih ušteda preduzetih mera i njihovog uticaja na smanjenje zagađenja životne sredine. Dalje, potrebno je povećati broj studija slučaja koje se odnose na stambene zgrade i stimulisati korišćenje ovih kreditnih linija za njihovu adaptaciju, posebno u velikim gradovima, gde su one brojne, a zagađenje značajno. Potpuni uvid i ocena značaja kreditnog programa za energetske efikasnosti koji banke realizuju u saradnji sa GEFF-om može da se ostvari ukoliko se formira baza podataka na sajtu GEFF-a o svim domaćinstvima i stambenim zgradama koja su koristila ove kredite za investiranje u energetski efikasne tehnologije.

Imajući u vidu da je broj studija slučaja u analiziranim zemljama još uvek mali, ovo istraživanje treba proširiti nakon objavljivanja novih studija slučaja u analiziranim zemljama Zapadnog Balkana ili povećanjem broja zemalja koje koriste GEFF program.

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THE LOAN PROGRAM FOR IMPROVING ENERGY EFFICIENCY IN HOUSEHOLDS: ANALYSIS AND PERSPECTIVES

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Abstract

Due to the lack of financial resources and the high initial costs of investment into energy-efficient technology, significant potentials for energy saving in households are not being used. Household energy-efficiency loans are crucial for overcoming financial obstacles in bank-centric financial systems. The paper analyses the use of these loans in countries of the Western Balkans and examines examples of successful practice in order to determine the possibilities for improving programs for green financing and energy-efficient households. Examples of successful practices in households are analysed using the study case method, content analysis and comparative methods. Research results show that energy-efficiency loans and grants of the European Union motivated households to use energy-efficient technologies. Innovative technologies enable energy saving, financial savings and reduction of carbon dioxide (CO₂) emissions.

Key words: credit lines, green finances, energy efficiency, households, Western Balkans

JEL: F33, G21, O13

Introduction

The consequences of global warming and the current energy crisis have shown that the improvement of energy efficiency is significant in all countries (Nikolić & Milojković, 2023; Nikolić et al., 2024), in particular in those in which the energy intensity is higher than the European Union (EU) average and in countries that depend on energy imports.

The highest global energy consumption in the world was noted in cities in which more than 2/3 of global energy is consumed. According to estimates, urban areas comprise 70% of global CO₂ emissions, whereby traffic and construction have the greatest impact (UN Environment Programme, 2024; UN Environment Programme, 2024a). The introduction of energy efficiency technologies in households in cities can significantly reduce energy consumption and CO₂ emissions. This contributes to sustainable development (Ignjatijević et al., 2020).

In countries of the Western Balkans (Serbia, Montenegro, Bosnia and Herzegovina, North Macedonia and Albania), the average energy intensity is 3

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times higher than the European Union average. According to World Bank estimates, 35% of total household energy consumption can be saved (European Commission, 2016). Having in mind these data and the fact that expensive energy is excessively consumed, the possibilities for the consumption to be rationalized and for the energy mix to be applied in the household sector must be analysed. CO₂ emissions are also high in these countries (Janković & Golubović, 2024).

The lack of financial resources for investing into energy efficiency technologies, high initial costs, a long period for the return of invested funds, lack of information and a low level of awareness among the population are the most common obstacles for improving energy efficiency in the household sector (Arakkal, 2021; Hesselink & Chappin, 2019; Caird et al., 2008). In countries with bank-centric financial systems, banks play a significant role in increasing household energy efficiency (Migliorelli, Dessertine, 2019; Vesić et al., 2023).

Bank-centricity of the financial system is evident in the Western Balkans countries. Banks are mediators between financial surplus transactors and financial deficit transactors and they play a crucial role in improving energy performance of households in these countries (Nikolić et al., 2024). As partner financial institutions within the green financing program, they enable funds from the Green Economy Financing Facility (GEFF) to be distributed to households through energy efficiency loans (Stojanović, 2020). This paper analyses the use of energy efficiency loans for investing in energy efficient technologies in households in the Western Balkans countries.

The rest of the paper is divided as follows. The first part of the paper points out the aim of the research and the methodology used for the analysis of loans for energy efficiency in the Western Balkans countries. Analysis results and discussion are presented in the second part of the paper. Research conclusions, along with the recommendations and research limitations are provided in the final part of the paper.

Aim of the paper and methodology

In 2013, the European Bank for Reconstruction and Development (EBRD) with the support of the European Union and in partnership with the Energy Community Secretariat (ECS) launched the Regional Energy Efficiency Program (REEP) for the Western Balkans countries. After noticing numerous obstacles to improving household energy efficiency in these countries the REEP Plus Program, Western Balkans Sustainable Energy Financing Facility (WeBSEFF - Residential) were provided, in order to stimulate them to use more energy efficiency technologies (European Commission, 2016). Within this program, a Green Economy Financing Facility in the Western Balkans has been implemented since 2017. Financing of households through GEFF in these countries is carried out through local partner financial institutions (banks), which grant funds from this program to natural

persons who fulfil the established eligibility criteria (GEFF Serbia, 2024b). Households using these credit lines are also receiving grants from the EU in the value of up to 20%, while the value of grants is up to 35% of eligible costs for residential buildings (GEFF Serbia, 2024).

Up to this moment, more than 18,000 households in the Western Balkans have invested over 100 million euros in energy efficiency technologies. Investment in new technologies have enabled energy savings of 70,000 MWh/year and the reduction of CO₂ emissions by 25,000 t/year (GEFF, 2024).

The paper analyses case studies on households in the Western Balkans countries in order to determine the possibilities for improving the green financing program and energy efficiency of households.

The analysis was based on secondary data from GEFF of the Western Balkans countries that published case studies for households - Serbia, Bosnia and Herzegovina and North Macedonia. The analysis method was used for the theoretical and empirical analysis of energy efficiency and financing of energy efficiency technology. Examples of successful household practices in the selected countries were analysed using the case study method, the content analysis method, and the comparison method.

The hypothetical-deductive method was used for defining and checking the following hypotheses:

- H1: Energy efficiency loans of the Western Balkans countries and financial grants of the EU motivate households to use energy efficiency technologies;
- H2: The number of households using energy-efficiency loans is increasing;
- H3: Investments in energy efficiency technologies enable energy savings and financial savings in the household, and reduction of environmental pollution.

The synthesis method was used to summarize the results, draw conclusions and give recommendations.

Results and discussion

The analysis of successful examples of households that used energy-efficiency loans and received EU grants included 13 case studies (12 households and 1 residential building) in three countries of the Western Balkans - Serbia, Bosnia and Herzegovina and North Macedonia. The GEFF program for the Western Balkans, in which loans for energy efficiency were granted to the analysed households, is supported by the European Union, the Federal Ministry of Austria and the Western Balkan Investment Framework (WBIF).

Serbia

Case studies on households using energy efficiency loans of the GEF program for the Western Balkans in Serbia were among the first that appeared. The analysis included 4 households, the case studies of which were published in the period from 2019 to 2023 (*Table 1.*).

With the aim of reducing heating costs during the winter, the Grubac household from Belgrade decided to replace the wood boiler with a new biomass boiler. Using an energy efficiency loan, they invested 3,070 euros in this boiler. In addition to the loan, the Grubac family also received a 460-euro grant. Investment in energy-efficient heating enabled energy savings of 2.40 MWh/year and the reduction of heating costs. CO₂ emissions and environmental pollution were also reduced (GEFF Serbia, 2019).

The Stojković household from Sremska Mitrovica decided to reduce energy consumption when building a new house. They invested in thermal insulation and highly energy-efficient PVC windows and doors. The Stojković family received a loan for energy efficiency in the value of 3,700 euros and a 740-euro grant. The use of energy-efficient technologies made it possible to save energy of 5.00 MWh/year, to save money, to increase comfort and reduce environmental pollution (GEFF Serbia, 2019a).

In order to become independent in terms of energy and to reduce environmental pollution, the Rađenović household from Belgrade installed solar panels in their family home. The financing of the solar panels was carried out from a loan for energy efficiency in the amount of 9,000 euros and a 1,600-euro grant. After installing new technology, this household has been powered entirely by electricity from solar panels and it has no additional electricity costs. Annual energy savings are estimated at 4.65 MWh, and the expected payback period is 7-10 years (GEFF Serbia, 2022).

In 2022, the Đukanović household from Belgrade initiated the adaptation of its 250 m² house by investing in energy efficiency technologies. The goal of this investment was to reduce energy consumption, find sustainable energy solutions and improve comfort during the winter. They were granted two loans for energy efficiency in the total value of 31,000 euros and a 5,800-euro grant (GEFF Serbia, 2023). The funds were invested for a heat pump, underfloor heating, solar panels and energy-efficient windows. After the completed works, the house experienced a complete transformation - energy savings of 7.80 MWh/year were achieved, heating costs were reduced, comfort in the house was increased and CO₂ emissions were reduced by 3.60 t/year. Owing to these savings, it is estimated that the invested funds will be returned in 7 years (GEFF Serbia, 2023).

Table 1. Case studies of households that used loans for energy efficiency in Serbia

Investor	Location	Investment	Investment and grant value (euro)	Financial result (PBP)*	Energy savings (MWh/year)	Reduction of CO ₂ emissions (t/year)
Household Grubac	Belgrade	Biomass boiler	3,070 460	-	2.40	-
Household Stojković	Sremska Mitrovica	Thermal insulation, PVC windows	3,700 740	-	5.00	-
Household Radenović	Belgrade	Solar panels	9,000 1,600	7-10 years	4.65	-
Household Đukanović	Belgrade	Solar panels, heat pump, underfloor heating, PVC windows	31,000 5,800	7 years	7.80	3.60

Source: Illustrated by the author based on: GEFF Serbia, 2024a

Note: * payback period (years)

Bosnia and Herzegovina

The largest number of examples of successful practice of improving the energy efficiency of households was recorded in Bosnia and Herzegovina. Analysed studies of households that used energy-efficiency loans from the GEFF programme in the period from 2018 to 2020 included 6 households and 1 residential building (*Table 2.*).

In the household in Ustikolina, the owner Tešević renovated the family house where he spends his free time. After investing 5,700 euros in thermal insulation and a pellet boiler, this house was completely transformed into an energy efficient house that was warmer and more comfortable. To acquire these technologies, he used an energy-efficiency loan and received a 1,000-euro grant. Estimated annual energy savings are 6.00 MWh. Using a pellet boiler instead of a wood boiler contributed to the reduction of environmental pollution (GEFF Bosnia and Herzegovina, 2018c).

The Lalović family from East Sarajevo replaced a wood and coal boiler with a new pellet boiler using an energy-efficiency loan. They invested 1,360 euros in a

pellet boiler and they were granted 200 euros. The implemented changes made it possible to reduce energy consumption by about 1.06 MWh/year and to return the investment in 2 years. The introduction of more energy-efficient technology contributed to the reduction of CO₂ emissions by 0.41 t/year (GEFF Bosnia and Herzegovina, 2018).

With the aim of providing better thermal and sound insulation, the owner of the Kamarić home in Visoko replaced the wooden windows and doors from the 80s with PVC doors and PVC windows with three-layer glass. Using the energy-efficiency loan, he invested 2,711 euros in energy-efficient technology and received a 407-euro grant. Replaced carpentry made it possible to reduce energy consumption by 1.13 MWh/year and, thus, the financial savings. The visual appearance of the house, which was built in the 60s of the previous century was changed (GEFF Bosnia and Herzegovina, 2018a).

By investing 3,656 euros in a heat pump, the Božić household from Mostar improved the energy efficiency of their home, provided simpler and cheaper heating during the winter, and cooling during the summer. After investing in energy-efficient technologies, they received a 548-euro grant. The new heating method enabled them to save energy of 0.70 MWh/year and greater comfort in the household (GEFF Bosnia and Herzegovina, 2018b).

Using multiple measures to improve energy efficiency - installation of PVC windows and PVC doors, thermal insulation and the purchase of a pellet (biomass) boiler, the Maslić family from Šamac enabled faster and better heating of their living space, saving energy and creating better living conditions. (GEFF Bosnia and Herzegovina, 2019a). Investing in new and energy-efficient technologies was realized using an energy efficiency loan in the amount of 5,110 euros. The Maslić family received a 1,000 euro grant for this investment. The result of using the new technology is an energy saving of 3.60 MWh/year. As they replaced the use of coal with pellets and rationalized energy consumption, CO₂ emissions and environmental pollution were reduced (GEFF Bosnia and Herzegovina, 2019a).

With the aim of reducing heating costs, the home owner Omerović invested 3,650 euros in a pellet boiler. He secured the funds for this investment from an energy-efficiency loan, and after installing the boiler, he received a 530-euro grant. By replacing the wood boiler with a pellet boiler, this household achieved energy savings of 2.80 MWh/year, which was also accompanied by financial savings. In addition, environmental pollution was reduced due to the reduction of carbon dioxide emissions by 1.07 t/year (GEFF Bosnia and Herzegovina, 2019).

A multi-storey building in Sarajevo was renovated using an energy-efficiency loan. With the aim of improving energy efficiency, 34,000 euros were invested in thermal insulation and PVC windows. Building tenants received 11,000-euro

grant. New technologies influenced the reduction of energy consumption by 43.62 MWh/year and energy costs. Due to the improvement of energy efficiency, the CO₂ emission was reduced by 8.77 t/year (GEFF Bosnia and Herzegovina, 2020).

Table 2. Case studies of households that used loans for energy efficiency in Bosnia and Herzegovina

Investor	Location	Investment	Investment and grant value (euro)	Financial results (PBP or savings)*	Energy savings (MWh/year)	Reduction of CO ₂ emissions (t/year)
Household Tešević	Ustikolina	Thermal insulation, Pellet boiler	5,700 1,000	-	6.00	-
Household Lalović	East Sarajevo	Pellet boiler	1,360 200	2 years	1.06	0.41
Household Kamarić	Visoko	PVC windows and doors	2,711 407	-	1.13	-
Household Božić	Mostar	Heat pump	3,656 548	250 euro	0.70	-
Household Maslić	Šamac	PVC windows and doors, biomass boiler, thermal insulation	5,110 1,000	-	3.60	-
Household Omerović	Tuzla	Pellet boiler	3,650 530	-	2.80	1.07
Residential building	Sarajevo	Thermal insulation, PVC windows	34,000 near 11,000	-	43.62	8.77

Source: Illustrated by the author based on: GEFF Bosnia and Herzegovina, 2024

Note: * payback period (years) or savings (euro)

North Macedonia

Households use about 40% of the total electricity in North Macedonia (GEFF North Macedonia, 2020a). About 40% of greenhouse gas emissions come from energy-inefficient buildings (GEFF North Macedonia, 2020). The potential for saving energy in households, financial savings and reducing environmental pollution is great. The analysis of case studies in this country includes two households that used energy-efficiency loans and used them to finance several energy-efficient technologies (*Table 3*).

The Janakievski Family from Skopje invested 19,500 euros in a heat pump, roof insulation and installation of new windows in a family house built in the 80s. They used an energy efficiency loan for the investment. The Janakievski household received a 3,900 grant after improving the energy efficiency of this household, the family achieved energy savings of 11.16 MWh/year. Energy-efficient technologies contributed to the reduction of CO₂ emissions by 2.55 t/year (GEFF North Macedonia, 2020a).

With the aim of building an energy-efficient house in the Popov household from Skopje, a heat pump was installed, insulation of the walls and roof was completed, and energy-efficient windows were installed.. The investment in these technologies in the amount of 41,800 euros was financed from the energy-efficiency loan. The value of the grant for this investment was 8,360 euros. The measures taken to improve energy efficiency for this household provided energy savings of 86 MWh/year, and a reduction in environmental pollution (GEFF North Macedonia, 2020).

Table 3. Case studies of households that used loans for energy efficiency in North Macedonia

Investor	Location	Investment	Investment and grant value (euro)	Financial results (PBP)*	Energy savings (MWh/year)	Reduction of CO ₂ emissions (t/year)
Household Janakievski	Skopje	Heat pump, roof insulation, windows	19,500 3,900	-	11.16	2.55
Household Popov	Skopje	Heat pump, insulation, windows	41,800 8,360	-	86.00	-

Source: Illustrated by the author based on: GEFF North Macedonia, 2024

Note: * payback period (years)

Analysis of household case studies in the Western Balkans countries showed that case studies of families living in capital cities are dominant (*Table 4.*). In Serbia, 75% of households are in the capital, while in North Macedonia it is 100%. In contrast, in Bosnia and Herzegovina there are case studies from different cities and they are equally represented territorially. The importance of taking measures to improve energy efficiency in large and capital cities is great because environmental pollution is the greatest there. Intensifying measures undertaken with the use of energy-efficiency loans and EU grants in these cities is necessary. On the other hand, examples of successful implementation of energy-efficiency measures and savings in smaller towns affect the development of people’s awareness of living in different parts of the country about the benefits of using energy-efficient technologies, the possibilities and conditions of their financing from energy-efficiency loans and grants.

Table 4. Overview of study cases according of their geographical location in the observed countries

Households in capital cities				Households in other cities			
City	Household	Number	%	City	Household	Number	%
Belgrade	Grubac Rađenović Đukanović	3	75	Sremska Mitrovica	Stojković	1	14
Sarajevo	Residential building	1	17	East Sarajevo	Lalović	1	14
Skopje	Janakievski Popov	2	100	Ustokolina	Tešević	1	14
				Visoko	Kamarić	1	14
				Mostar	Božić	1	14
				Šamac	Maslić	1	14
				Tuzla	Omerović	1	14
	Total	6	46		Total	7	54

Source: Illustrated by the author based on: GEFF Serbia, 2024a; GEFF Bosnia and Herzegovina, 2024; GEFF, North Macedonia, 2024

Various technologies were used to improve energy efficiency (*Table 5.*). The largest number of households changed the heating method - wood or coal boilers were replaced by biomass (pellet) boilers or a heat pump. In the observed countries, there were 9 households that used these technologies. The following technologies are related to the installation of PVC windows and doors and thermal insulation, which are also represented in all analysed countries. In 6 households

and 1 multi-storey residential building, old windows and doors were replaced with PVC windows and doors, and these technologies were used equally in households in all countries. Technologies related to the improvement of thermal insulation of walls and roofs were used in 5 households and 1 residential building. Solar panels were installed in just 2 households in Serbia. This technology was not dominant in the other case studies.

Loan for financing energy efficiency technologies in Serbia and North Macedonia was used only by households, while in Bosnia and Herzegovina this loan was used for adaptation in households and for the adaptation of 1 multi-storey residential building. Considering that the grant for investments in energy efficiency technologies is the highest for residential buildings, it can be concluded that the managers of residential buildings are not using these financial benefits yet.

Table 5. Overview of case studies according to the type of technology in the observed countries

Technology	Total	Number of households	Number of residential buildings	Country
Solar panels	2	2	-	Serbia
		-	-	Bosnia and Herzegovina
		-	-	North Macedonia
Thermal insulation	6	1	-	Serbia
		2	1	Bosnia and Herzegovina
		2	-	North Macedonia
PVC windows and doors	7	2	-	Serbia
		2	1	Bosnia and Herzegovina
		2	-	North Macedonia
Heat pumps, boilers, underfloor heating	9	2	-	Serbia
		5	-	Bosnia and Herzegovina
		2	-	North Macedonia

Source: Illustrated by the author based on: GEF Serbia, 2024a; GEF Bosnia and Herzegovina, 2024; GEF, North Macedonia, 2024

By observing case studies according to the value of investments, it can be noticed that the largest investments were recorded by households in North Macedonia, which used several technologies to improve the energy efficiency of their homes (thermal insulation of walls and roofs, replacement of windows and doors and replacement of the heating method - installing heat pumps). This is followed by households from Serbia with installed solar panels and other energy-efficient technologies. The high value of the investment in Bosnia and Herzegovina was recorded only in the case study related to a multi-storey residential building (Table 6.).

The largest energy savings in the analysed case studies were achieved in North Macedonia, where several technologies were applied in each of the analysed households. The achieved savings are in the range of 11.16-86.00 MWh/year. Significant energy savings were also achieved in Bosnia and Herzegovina (43.62 MWh/year), where the building was adapted using several technologies to improve energy efficiency. Households in Serbia and Bosnia and Herzegovina achieved savings of up to 8 and 6 MWh/year, respectively. Despite the small values of individual household savings, the opportunities for household energy savings are high due to the number of households, especially in large cities.

Table 6. Overview of study cases according to the value of investment and energy saving in the observed countries

Indicators	Country		
	Serbia	Bosnia and Herzegovina	North Macedonia
Investment value (euro)	3,070-31,000	1,360-5,700 34,000*	19,500-41,800
Energy saving (MWh/year)	2.7-7.8	0.70-6.00 43.62*	11.16-86.00

Source: Illustrated by the author based on: GEFF Serbia, 2024a; GEFF Bosnia and Herzegovina, 2024; GEFF, North Macedonia, 2024

Note: *data for the residential building

Conclusion

Results of the case study analysis of households in Serbia, Bosnia and Herzegovina and North Macedonia showed that energy-efficiency loans and EU grants encouraged households to start investing in energy-efficient technologies. An increasing number of households use energy-efficiency loans and EU grants.

Investments in the aforementioned technologies allowed them to reduce energy consumption, while maintaining the usual temperature and increasing comfort.

Despite the lack of data on the financial effects of energy savings, it can be concluded that there are also significant financial savings in all households due to the reduction in energy consumption. Examples of successful investments in energy efficient technologies of these households and residential buildings can encourage other households and managers of residential buildings to use energy efficiency loans and EU grants to finance the high initial costs of introducing these technologies. Based on the available data of 1/3 of the analysed households on the reduction of carbon dioxide emissions, it can be concluded that there are benefits from improving household energy efficiency for the society as well. In support of this is the fact that in a large number of households the heating method has changed - wood and coal boilers were replaced by biomass (pellet) boilers.

By increasing the number of case studies on the successful implementation of energy-efficient technologies in households and the savings realized on this basis, a positive impact will be achieved on people's awareness about the need for investment in these technologies. Based on this, an increase in the number of households that invest in these technologies and use loan programs to improve the energy efficiency of their homes can be expected.

With the aim of popularizing the Green Economy Financing Facilities (GEFF) for the introduction of energy-efficient technologies in households and residential buildings in the Western Balkans, it is necessary to continuously publish and analyse case studies. In addition to financial support to households and managers of residential buildings, advisory support should be provided when determining the effects of financial savings of the measures taken and their impact on reducing environmental pollution. Furthermore, it is necessary to increase the number of case studies related to residential buildings and to stimulate the use of these loan lines for their adaptation, especially in large cities, where they are numerous and pollution is significant. A complete insight and assessment of the importance of the loan programme for energy efficiency that banks implement in cooperation with GEFF can be achieved if a database is created on the GEFF website about all households and residential buildings that used these loans to invest in energy efficiency technologies.

Considering the fact that the number of case studies in the analysed countries is still small, this research should be expanded after the publication of new case studies in the analysed countries of the Western Balkans or by increasing the number of countries using GEFF program.

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DRUŠTVENA ODGOVORNOST SAVREMENIH HOTELSKIH KOMPANIJA – PRIMER HOTELSKOG LANCA INTER CONTINENTAL HOTELS GROUP

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Rezime

Hotelski kompleks u nastojanju da odgovori sve zahtevnijim željama kupaca primenjuju menadžment totalnog kvaliteta u kome prednjači concept korporativne društvene odgovornosti. Upravo je cilj ovih istraživanja da apostrofira prednosti koje omogućava primena ovog strategijskog opredeljenja. Te prednosti uključuju satisfakciju internih i eksternih kupaca, javnog mnjenja, povećanje Prihoda, uštede u troškovima i izgradnju brenda. Svesnost, potencijal za promene i motivacija su činioci neophodni za primenu menadžmenta ukupnog kvaliteta kao filozofiju hotelske organizacije. Hotelska preduzeća predstavljaju vrlo osetljive komponente društva u kojem posluju i egzistiraju, stoga pored misije, vizije i ciljeva zbog kojih funkcionišu treba da izuzetno vode brigu o uticaju koji imaju na okruženje i životnu sredinu. Upravo povišeni stepen odgovornosti za održavanje zdravog okruženja, u kojima posluju hoteli, pojačali su njihovu društvenu odgovornost. Zaštita životne sredine osim restriktivnih zakona i ekonomskih mera (zagađivač plaća) ka oi prateće legislative doveo je hotelsku industriju da svoje poslovanje odvijaju na envojeronmentalnan prihvatljiv način. Integralna zaštita životne sredine predstavlja bitan prioritet ukupnog društva in a globalnom nivou. Međunarodni standardi za upravljanjem životne sredine omogućavaju hotelima da primenjuju i dostignu concept održivog razvoja. Poslovna politika hotelskih kompanija prihvata sveobuhvatne dimenzije društvene odgovornosti. Promene u smeru adaptibilnosti, primene novih tehnologija i ubrzanijeg razvoja sve više se odražavaju na šire društvene interese kojima menadžeri nastojeda doprinose širim interesima društva. Inovativnost turističke industrije i njena sposobnost šprilagođavanja tehnološkim (ICT) i društvenim promenama je jedan od glavnih preduslova konkurentnosti i opstanka na tržištu. Zahtevi standarda i viši nivo envornomentalne svesti uslovljavaju i preduzimaju mere protiv zagađivača životne sredine, te je stoga neophodno sistemsko upravljanje zaštitom okruženja.

Ključne reči: društvene promene, životna sredina, hoteli, gost, odgovornost;

JEL: M14, Q56

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Uvod

U hotelskoj industriji brojni inovatori i menadžeri su odavno prepoznali potencijal menadžmenta ukupnog kvaliteta kao bitnog faktora uspeha na tržištu, naročito u uslovima opštih ekonomskih kriza koje potresaju svetsku privredu još od početka ovog veka. Ovaj koncept snižava troškove kvaliteta uz istovremeno unapređivanje procesa rada, sa unapređivanjem produktivnosti i kvaliteta proizvoda i usluga. U ovom konceptu posebno se apostrofiraju teško merljivi elementi ovog koncepta, kao što je održavanje dobrih odnosa prema gostima hotela, dobavljačima, zaposlenima, vlasnicima, širom javnošću i okruženjem, a posebno briga o životnoj sredini, koju treba štititi od nepovoljnih dejstava. U uvođenju koncepta društvene odgovornosti u hotelijstvu Srbije prednjačili su oni hoteli koji su iz međunarodnih hotelskih lanaca, koji imaju dugogodišnju praksu u sprovođenju tog koncepta i koji imaju neophodnu infrastrukturu za implementaciju integralnog programa. To se manifestuje u posedovanju modernih tehnologija, kapitala i znanja. Hoteli iz ove grupacije hotela, su već početkom ovog veka da u Srbiji razvijaju i sprovode niz programa iz opsega društvene odgovornosti kako bi pomogli u rešavanju prirodnih i društvenih problema, ali i unapredili odnose sa klijentima, zaposlenima i dobavljačima. Nagli razvoj prerađivačke industrije doveo je do nastanka koncepta društveno odgovornog poslovanja – CSR (Corporate Social Responsibility). Brojne opšte krize izazvane ekonomskim (finansijskim) i neekonomskim razlozima (epidemije, ratovi, zemljotresi, suše, poplave) usloveli su bitne promene u pristupu poslovanja i dostupnim resursima koji se masovno i stihijno troše. Društveno odgovorno ponašanje zasniva se na uzajamnom poverenju i zajedničkom pristupu budućem poslovanju, te to čini odgovornu vezu između poslovnog okruženja i šire društvene zajednice. Danas mnogi hoteli, posluju u okviru hotelskih lanaca, a deluju lokalno poštujući principe društvene angažovanosti i svoju poslovnu kulturu uključuju se u razvoj lokalne zajednice i zaštite životne sredine. To je i primarna briga, kao i preduzeća iz ostalih privrednih delatnosti, na sve turbulentnijem tržištu. Hotelski lanci ulažući napore, za očuvanje životne sredine mogu da dovedu na nizak nivo negativan uticaj na životnu sredinu odnosno da usmere svoj razvoj na viši nivo envajeronmentalne održivosti. To se odnosi na korišćenje resursa (pre svega energetike) i otpadnog materijala. Radi se o implementaciji sistema zaštite životne sredine (deo ukupnog menadžmenta hotela), EMAS koji se odnosi na model razvoja hotelskog lanca. U Srbiji se, često, ova problematika tretira kao trošak, a ne kao racionalizacija poslovanja. U poslovanju domaćih hotelskih preduzeća neophodno je potencirati značaj odgovornog poslovanja u društvu, u samom hotelu, kod lokalne samouprave i kod brojnih hotelskih gostiju.

Neophodnost za društveno odgovornim promenama u hotelijerstvu

Sve inicijative koje se odnese na integralnu društvenu odgovornost u hotelijerstvu neophodno je tretirati kao skup investicionih aktivnosti. To je zbog toga što upravo oni hoteli koji su u poziciji da mogu implementirati programe efikasnog korišćenja svih resursa za kreiranje svojih proizvoda i usluga, a u svrhu smanjenja zagađivanja okruženja, pored visokih početnih troškova, mogu poslovati sa daleko nižim troškovima u budućem periodu. U prevazilaženju brojnih društvenih problema hoteli pružaju pomoć lokalnoj zajednici čime se gradi poverenje i dogradnja imidža hotela, na lokalnom, regionalnom i nacionalnom nivou. S druge strane to motiviše brojne stejkholdere da ostanu lojalni hotelu, uključujući zaposlene, klijente, dobavljače i investitore. Istraživanja su pokazala da su hotelski poslenici u Srbiji zadovoljni rezultatima implementacije programa društvene odgovornosti. Smatraju da ovi program donose niz pogodnosti sa aspekta nivoa troškova, kvaliteta hotelskog proizvoda i usluga, radnog ambijenta, odnosa sa klijentima, stejkholderima i lokalnom zajednicom. Gradi se good vill, imidž hotela, poverenje gostiju i okruženja i poverenja gostiju i stejkholdera. Ovaj concept donosi niz prednosti u tržišnom pozicioniranju i diferenciranje, ten a taj način i sticanje konkurentske prednosti, posebno u uslovima ekonomske krize i globalizacije. U narednom period može se očekivati dalje unapređivanje koncepta i programa društvene odgovornosti, pogotovo uzimajući u obzir odnos nivoa investicija u te aktivnosti i niz prednosti koje iz njih proizilaze. Posebno sa aspekta specifičnosti hotelskih preduzeća brojne koristi za njih ostvaruju se aktivnostima koje su usmerene na rešavanju ekoloških problema na lokalitetu, imajući u vidu da hoteli imaju odličnu interakciju sa okruženjem, te je ta okolnost nezamenljiva. Posebne koristi od takvog opredeljenjima ima radna snaga koja se regrutuje na lokalnu, kao i brojni dobavljači. Takav odnos utiče in a veći stepen aaktivnosti konkretne destinacije. Posebna potreba se iskazuje ulaganjem u obuku i zadržavanje kvalitetnih kadrova, negovanjem odnosa sa dobavljačima, očuvanjem i unapređenjem atraktivnosti destinacije može se unaprediti kratkoročna operativna efikasnost, kao i pozitivne tržišne evaluacije višeg nivoa profitabilnosti u budućem poslovanju. Tada će se, u kontinuitetu, otvarati mnoga pitanja sa aspekta evaluacije društveno odgovornih performansi. Međutim, u hotelijerstvu ne postoji unikatni model za merenje prinosa n abilo koju vrstu investicija u ovaj concept poslovanja ostaju u opticaju subjektivne mere kako bi se vrednovala ta ulaganja (Carroll, 2000). Vrlo bitnim izvorom konkurentnosti, možda i više nego u drugim delatnostima, ljudski kapital, javlja se u hotelijerstvu jer neposredno deluje na kvalitet hotelskog proizvoda i usluge jer je u pitanju satisfakcija eksternih kupaca, gostiju na destinaciji, pojačavaajući njihovo zadovoljstvo. Osim toga širi se “dobar glas” i usmeno propagiranje, smanjuje se

procenat odsutnosti i otkaza. Na taj način se umanjuju troškovi zapošljavanja i regrutovanje sa obučavanjem potencijalnih uposlenika u konkretan hotel (Vitaliano, 2010). Kvalitetni odnosi sa zaposlenima podrazumeva nivo u kojem hotelsko preduzeće uvažava zakonska prava zaposlenih i očekivanja društva (bezbednost, zdravstveno i penziono osiguranje, uslovi rada i slično). Dobri odnosi sa zaposlenima i kategorije proizvoda jedine su dve dimenzije koje pozitivno utiču na profitabilnost, ali uključivanje kompanije u rešavanje problema prirodne sredine, zajednice i raznovrsnosti ima veći pozitivan uticaj na atraktivnost kompanije kao poslodavca, ali i na povećanje vrednosti za vlasnike (Stone i Heiner, 2002). Društvena odgovornost hotelskih kompanija podrazumeva: odgovornost, transparentnost, etičnost, poštovanje stejkholdera, zakona i prava ljudi. Međunarodni hotelski lanci, kao što su Holiday Inn, Accor, Marriott, Hyatt, InterContinental i drugi, uveliko primenjuju ovaj standard s obzirom da imaju sposobnosti za uvođenje skupih programa za smanjenje korišćenja energije i vode, reciklažu i slično.

Predmet i metode istraživanja

Dugo su hoteli poslovali kao posebni entiteti i često neodgovorni prema prirodi. Vremenom se razvila svest o umerenom korišćenju prirodnih resursa i očuvanju ambijentalnih Celina, al ii uz povećani nivo profitabilnosti i satisfakcije gostiju. Cilj ovog istraživanja je, da na osnovu dostupne literature i saznanja u poslovanju hotela u Srbiji pruži izvesni doprinos odgovornog ponašanja hotela preko primene standarda upravljanja životnom sredinom u hotelskoj industriji. Tokom ovog istraživanja primenjene su standardne naučne metode: istorijska, deskriptivna i statistička metoda. Sa aspekta stepena istraženosti ovog problema smatra se da je concept društveno odgovornog poslovanja hotela. U Srbiji relativno nov te zato i nedovoljno istražena filozofija poslovanja i njegova suština. Osnovna hipoteza je postavljena tako kako bi se dokazao nivo odgovornog ponašanja i uticaj na kreiranje imidža i “dobrog korporativnog građanina”. Pomoćna hipoteza glassi: etično postupanje u okviru društvene odgovornosti odnosi se na moralnu odgovornost koja dostiže glavnu ulogu u ponašanju pojedinaca i grupa. Potom, neophodno je ukazati na nivo implementacije međunarodnih standarda upravljanja životnom sredinom koje omogućava hotelima da, u sistemu upravljanja, objedinjuje upravljanje environmentalnim učincima i da se postigne usklađenost ove politike i prakse s njihovom misijom i ciljevima poslovanja. “Novi gosti” preferiraju dolazak u hotel koji je envajerontalno prijateljski. Treba imati u vidu da su različiti sektori, u turističkoj industriji, imaju različite stavove prema društveno odgovornom poslovanju. U zavisnosti od veličine i lokacije hotela razlikuju se stavovi prema tako usmeerenom poslovanju. Angažovanost na

odgovornom i održivom razvoju turističke destinacije, u praksi, pozitivno je povezano sa konceptom odgovornog poslovanja i njegovim sprovođenjem. “Društvena odgovornost preduzeća je konstantno obavezivanje poslovnog sveta da se ponaša etički i doprinosi ekonomskom razvoju, u isto vreme poboljšavajući kvalitet života, kako radne snage i njihovih porodica, tako i lokalne zajednice i društva uopšte”(WBCSD, 2011). Društveno odgovorno ponašanje hotelskih kompanija zasniva se na oslanjanju na 4 međuzavisna stuba u odnosu na:(Petrović, 2006):

- Zaposlene – usvajanje politike i prakse prema radnoj snazi, brigu o njima i njihovom random okruženju, osiguranje bezbednosti i zdravlja;
- Tržište – odgovorni odnos prema akcionarima, investitorima, dobavljačima i gostimaa, sa svima onima koji sa hotelima imaju poslovni odnos;
- Društvenoj zajednici – najvidljiviji aspect društveno odgovornog poslovnog ponašanja hotela. Poslovi iz ove oblasti zavise od neposrednih veza između hotelske kompanije i okruženja, i zasniva se na saznanjima ovih kompanija o potrebama i problemima lokalne zajednice.
- Ekologija – utvrđivanje balansa između potrebe za ekonomskim rastom i očuvanja zdravog prirodnog okruženja, a ne podrazumeva uključivanje principa ekološke održivosti i svakodnevno poslovanje konkretnog hotela.

Izvori podataka

Međunarodni hotelski lanac InterContinentah hotels group je prepoznatljiv po razvijenom sistemu online istraživanja, a započeo je prikupljanje podataka preko upitnika na web sajtovima još 2000 godine. Tada je zaključeno da su podaci, prikupljeni na ovaj način, pogodni za istraživanje. To se odnosi na zbirna istraživanja koja se tiču potreba potrošača (goste hotela) al ii tržišta, u celini, a potom i performansi hotel ai zaposlenih u njemu. Mada prikupljanje podataka nije idealno rešenje za hotelsku kompaniju, prema iPerceptions istraživanju zadovoljstva posetilaca sajtova u hotelijerstvu. Posetioci sajtova ovog lanca hotela su zadovoljniji online iskustvom od proseka (www.ihgplc.com). Posetioci mere zadovoljstvo (iPerceptions Satisfaction Index – iPSI). Posetioci ovih sajtova su jako zadovoljni, iznad proseka (6,9) od mogućih 10, gde se posebno ocenjuje 5 najznačajnijih elemenata Web sajta: navigacija, sadržaj, interaktivnost, motivacija i prilagođenost. Svi ovi upitnici se nalaze u bazi podataka ovog hoteskog lanca. Ocenii sajta veću vrednost daju tri značajna faktora (www.InterContinentalhotels.com): (1) mogućnost stvaranja lojalnosti klijenata; (2) podsticanje na ponovnu posetu; i (3) polazna je tačka za istraživanje tržišta u hotelijerstvu; Podaci o mišljenju posetilaca prikupljeni su uz 4 domena (www.ihgplc.com): (1) potrošnja energije, (2) ukupno recikliranje; (3) ukupna

potrošnja vode i (4) očuvanje destinacije; Posetioci (gosti) mogu davati ocene od 1 do 5, za sledeće domene (Petrović, 2021):

- solarne ploče na krovu, za zagrevanje vode;
- bašta na krovu za dodatnu izolaciju;
- nameštaj od materijala koji se recikliraju;
- sistemi za prikupljanje kišnice;
- farbe bazirane na vodi;
- doniranje ostatka hrane;
- tepisi od prirodnih materijala;
- sijalice koje štede energiju;
- tuševi i slavine koje štede vodu;
- toaleti sa dualnim puštanjem vode;
- netoksična biorazgradiva sredstva za čišćenje;

Dve osnovne vrste upitnika koristile su se kao instrument istraživanja:

a) online upitnik, i

b) upitnik poslat na e-mail adresu (najlojalnijim potrošačima);

Posetioci sajta su ostavljali sledeće podatke: e-mail adresu, godište, nivo obrazovanja, veličine kompanije u kojoj su zaposleni (mala, srednja i velika) i učestalost putovanja: manje od jednom godišnje do više puta nedeljno).

Istraživači su proces popune upitnika obavljali dvosmerno, a to znači da su bili uključeni i zaposleni kao marketing tim, u cilju analiziranja podataka dobivenih u prethodnim istraživanjima koje se ticalo zadovoljstva potrošača (gostiju). Hotelska kompanija je koristila interne podatke u vidu izveštaja o profit i gubicima ka oi i izveštaje o prodaji, odnosno podatke prethodno prikupljene. Ti podaci su bili neophodni da bi se oformio projekat inovativnog hotela, uvažavajući želje sadašnjih i potencijalnih gostiju. Osnovni izvori podataka bili su primarni podaci iz upitnika koji se nalazio na sajtu hotela.

Materijal i primenjena metodologija – odgovorno hotelijerstvo

U samoj definiciji turizma nalazi se deo o zaštiti životne sredine gde stoji (World Travel&Tourism Council, 2002): “turizam je jedan od najvećih izvora privredne aktivnosti, ali u isto vreme je važan za snagu održivosti, podizanja životnog standarda u nerazvijenim područjima, promovisanju očuvanja prirodne i životne sredine i obezbeđivanje sredstava za mirnu međunarodnu razmenu”. Hotelski lanci su, uglavnom, korporativno organizovani a to znači da ono pokriva sve tri dimenzije održivog envajeronmentalnog, ekonomskog i društvenog aspekta. S druge strane, može se primetiti sve veći broj odgovornih turista koji preferiraju one programe i hotele koji posluju društveno odgovorno (Petrović, 2008).

Dugoročni i odgovorni razvitak turizma, s naglašenim kvalitativnim pristupom u središtu su razmišljanja (Živković, 2009). Odgovorni turizam, a time i hotelijerstvo, ima mnogo odlika, te različite destinacije i učesnici imaju različite prioritete, i potrebno je da razvijaju lokalne politike i smernice kroz process saradnje više učesnika kako bi se efikasnije razvijao odgovorni turizam na konkretnim destinacijama. Neosporno, i u odgovornom hotelijerstvu, na osnovu pravnih parametara treba da se stvara profit akcionarima (Fridman, 1992). To se, obično, odnosi na smanjenje troškova kako bi se unapredila energetska efikasnost, a odnosi se in a porast etičkog konzumeratizma, ten a kraju da pokaže koliko odgovorno poslovanje utiče na porast Prihoda (Pizam, 2009). U 2017 godini, pre pojave pandemije, lanac hotela IHG je obavio istraživanje generalnog menadžmenta u cilju uvida u to na koji način brendovi podržavaju lokalnu zajednicu i sprovode društvene programe. Prikupljanjem podataka se obavljalo na osnovu internih i eksternih izvora, na sastancima, putem intervjua sa zaposlenima i gostima, ten a osnovu upitnika. Pored korisnika, feedback od dobavljača od velikog je značaja za bolje razumevanje korporativnih performansi i potencijalnih rizika i prilika (IHG, 2018). Kompanija IHG, kao globalni hotelski lanac, u cilju kompletiranja istraživanja obradila je tokom 2018 godine preko 200.000 upitnika. Sa strukturnog aspekta ankete obuhvaćeno je 65% žena i 35% muškaraca, sa prosečnom starošću od 39 godina. Od ukupnog broja ispitanika preko 69% njih je uposlano u velikim kompanijama, a 27% u srednjim preduzećima a samo 0,7% ispitanika su bili nezaposleni i penzioneri.

Ciljevi istraživanja

U savremenim uslovima razlozi za uvođenje i primenu društveno odgovornog poslovanja mogu se podeliti u 4 kategorije: (1) etički – moralni standardi; (2) održivost – ima smisla kad primena mera ima ekonomsko opravdanje (smanjenje potrošnje energije ili manjeotpada ali teže je opravdano u drugim slučajevima (transsparentnost korupcije); (3) dozvole za rad -predstavlja suočavanje sa pitanjima bitnim za deoničare, podstiče dijalog sa javnošću, zakonodavstvom, aktivistima id r.; (4) reputacija – pozitivnsa percepcija kod kupaca (gostiju) kroz uticaj na društvene promene, jačanja vrednosti i prepoznatljivost tržišne marke/Brenda i upravljanje rizicima koji jačaju reputaciju kod finansijskih institucija. Zaštita životne sredine predstavlja vrlo bitnu misiju hotelske industrije. Hotelski lanci i kompanije sve intenzivije prihvataju proaktivno upravljanjezaštitom životne sredine koja može povećati ekonomske i konkurentske dobitke, a ujedno obezbediti usaglašenost sa zakonom. Zaštita životne sredine podrazumeva primenu “zdravijih” tehnologija, odgovornije korišćenje resursa smanjuje emisije za zaštitu životne sredine, usvajanja ekoloških

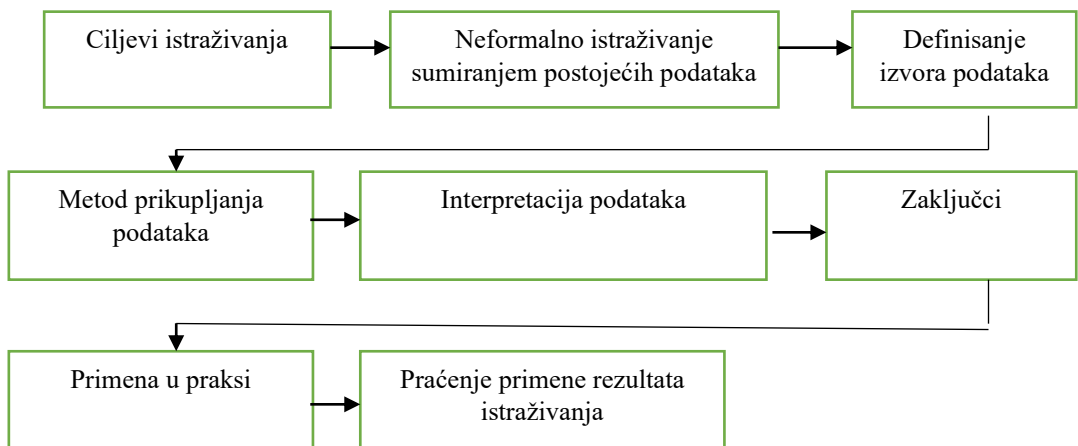
standarda, odnosa zaposlenih u tom domenu. Robar primer za društveno odgovorno poslovanje u hotelijerstvu predstavlja lanac hotela Crown Intercontinental koji zajedno sa lancem Best Western International predstavlja najveći hotelski lanac sa više od 4000 hotela u 90 zemalja. Ovaj hotelski lanac uspostavio je odnos prema okruženju kreirajući i sprovodeći svoje specifične programe, kao usmerenje njihove posvećenosti filantropiji, svi zaposleni poštuju predviđeni program prema zajednici. Uvažavaju se potrebe zajednici odgovarajući na njene neposredne i tekuće potrebe, sa njihovim ljudskim, smeštajnim i finansijskim resursima, uz uvažavanje timskog rada (www.crownintercontinental.com). Ovaj hotelski lanac ima dugogodišnji ugovor sa World Vision, vodećom agencijom za pomoć deci i omladini. Daje se podrška njima u vidu mesečnih donacija. Svaki hotel, u vidu doprinosa, mesečno uplaćuje za hranu, zdravu vodu, zdravstvo, obrazovanje i ekološki razvoj. Potom, ovaj lanac pomaže neprofitnim organizacijama prikupljajući sredstva za određene manifestacije na lokalnom nivou. Odbor za odgovorno poslovanje organizuje zabave i kreativne aktivnosti za zaposlene, tokom cele godine.

Ciljevi istraživanja IHG lanca hotela:

- 1) Kakav stav imaju posetioci hotel ai posetioci sajta o razvoju novog hotelskog proizvoda?
- 2) Koje karakteristike novog proizvoda su najznačajnije za potrošača?
- 3) Da li je kompanija izostavila iz projekta neke od karakteristika proizvoda koji su značajni za potrošače?

Ovaj hotelski lanac je kreirao plan istraživanja koji se sastojao od osam glavnih odrednica, sa jasnom vizijom iskazanom u tom planu.

Slika 1. Plan istraživanja IHG grupe



Izvor: www.IHGgroup.com

Neformalna istraživanja su obavljena nakon definisana ciljeva, zbranjajem postojećih podataka o stavovima potrošača koji se odnose na značaj društvene odgovornosti hotela. Putem E-Concierge, koji je online servis za goste bilo kog hotela iz IHG grupe lanca hotela prikupljaju se informacije i želje potencijalnih gostiju. Ovaj system je u direktnoj vezi sa InterContinental Websajtom i omogućava korisnicima interaktivan pregled, iz koga dobija informacije o okolini, mogućnostima za izlazak, zabavu, radnje i brojna zanimljiva mesta.

Podaci dobijeni iz Upitnika koji su gosti popunjavali tokom 2018 godine, IHG je sumirao ovako:

- (1) Društvena odgovornost značajno je povezana sa reputacijom smatra 84% ispitanika;
- (2) Inovativni programi društvene odgovornosti jačaju svest o brendu, 73% ispitanika;
- (3) Do sada se nije uključilo u Projekt 61% ispitanika, ali bi to želelo;
- (4) Za proizvod koji je ekološki zdrav 55,5% ispitanika je spremno da plati do 5% više za takav hotel;

Proces istraživanja

CrawnIntercontinental hotel je dobar primer društvene odgovornosti, a preduzete su sledeće inicijative društvene odgovornosti:

- (1) Podrška obrazovanju – interaktivna biblioteka na točkovima, besplatne knjige;
- (2) Menadžment i odlaganje otpada
 - Troškovi energije, sirovina i živog rada svode se na najnižu meru uz smanjenje ostataka i otpada;
 - Korišćenje osvetljenja, grejanja i klimatizavcije se nadgleda u sprečavanju nepotrebne potrošnje;
 - Štedljive sijalice se postavljaju na svim mestima gde je izvodljivo;
 - Uvode se dvomlazni toaleti, u cilju smanjenja potrošnje vode;
 - Sobe opremljene termostatičkim ventilima na radiatorima;
 - Elektronska pošta se štampa samo kad je neophodno;
 - Oglašavanje i informacije se objavljuju na sajtu, zbog štednje papira;
- (3) Reciklaža
 - Sav otpadni papir i karton se posebno izdvaja radi reciklaže;
 - Toneri za štampanje se recikliraju za dobrotvorne svrhe;
 - Papirna ambalaža se koristi gde je god moguće;
 - Ulje za kuvanje se skuplja da bi se koristilo za biodizel;
 - Sva staklena ambalaža se reciklira;
 - Posteljine se menjaju u intervalima koji ne umanjuju zadovoljstvo gosta;

(4) Podrška lokalnoj zajednici

- Hotel je uključen u programe školske prakse;
- Dobrotvorne donacije;
- Sva hrana se nabavlja na lokalnom nivou;
- Služe se i promovišu domaća pića;
- Hotel nudi smeštaj sa popustom lokalnim preduzećima;
- Hotel sprovodi podršku lokalnim objektima i atrakcijama;
- Hotel stalno prati i unapređuje svoju reputaciju na lokalnom području;

(5) Opšte

- Hotel poseduje sve licence i sertifikate za očuvanje životne sredine;
- Hotel dočekuje i pse vlasnika, nudeći im posebne programe;
- Hotel podstiče obuku osoblja, u vidu posebnih seminara i treninga;
- Hotel poseduje i parking, sobe, toalete i liftove sve namenjeno invalidima;
- Prozori i nameštaj se čiste destilovanom vodom, bez upotrebe hemikalija;

Svi eko hoteli su prepoznatljivi po svom dizajnu, i posebno, ugrađenim materijalima, organizacijom radnih operacija (solarno grejanje, potrošnja energije, reciklaža) i opreme (ekološka posteljina, te sadržajem (zdrava hrana), maksimalno u funkciji očuvanja prirodne sredine u kojoj se nalaze, sa svim ekološkim sadržajima (Čačić, 2011);

Istraživanje obavljeno u lancu hotela IHG lanca pokazuju da hoteli podržavaju zajednicu na mnoge načine, tako, na primer 63% hotela daje besplatan smeštaj, dok 39% donira hranu i piće.

Pregled 1. Način održavanja zajednice od IHG brendova

Pokazatelj 2019g učesće (%)	Relativno
1) Hendikepirani i starije osobe	37%
2) Podržavanje raznolikosti manjine	25%
3) Ostalo	13%
4) Razvoj zajednice	50%
5) Treniranje osoblja	69%
6) Programi za mlade – edukacija	50%
7) Umetnost i kultura	36%
8) Pomoć žrtvama katastrofa	29%
9) Okolina	53%

Izvor: www.IHGgroup.com

U okviru ovog hotelskog lanca istraživanje sprovedeno 2018 godine u Azijsko-Pacifički region ukazuje da 36% hotela dozvoljava volontiranje, a 38% obezbeđuje besplatno noćenje, od kojih se mnoga koriste kao nagrade u različitim dobrotvornim akcijama. Iz ove grupacije izvesni hoteli obezbeđuju konferencijske sale dobrotvornim organizacijama bez naplate. U ovom region 32% hotela Grupe meri učinke njihove društvene aktivnosti, a čak 76% njih izveštava javnost o raznorodnim inicijativama.

Tabela 1. Rezultati istraživanja zadovoljstva postojećim idejnim rešenjima

I d e j a	Bodovi u proseku	Bodovi ukupno	U %
1) Sijalice koje štede energiju	5	9900	99
2) Doniranje ostatka hrane	5	9700	97
3) Soplarne ploče na krovu	5	9500	95
4) Bašta na krovu	5	9470	94,7
5) Nameštaj od reciklirajućeg materijala	5	9215	92,1
6) Električna energija na snagu vetra	4	7900	79,8
7) Tepisi od prirodnih materijala	4	7900	79
8) Netoksična – biorazgradiva sredstva za čišćenje	4	7890	78,9
9) Farbe bazirane na vodi	4	7650	76,0
10) Sistem za prikupljanje kiše	4	7500	75,0
11) Tuševi i slavne koji štede vodu	3	5900	59,0
12) Toaleti sa dualnim puštanjem vode	3	5800	58,9

Izvor: www.ichotelsgroup.com

Uvođenjem savremenih ICT Sistema hotelska kompanija postaavila je za cilj uvećani obim izveštavanja, ka oi univerzalnost izveštaja, sa tendencijom da se istraživanja prošire na što više hotela. Ova kompanija je razvila poseban menadžerski alat ESCAP Enviro koji meri ekološke performace hotela, potrošnju

električne energije, potrošnju vode i stvaranje otpadnog materijala. Kompleksno kreiran informacijski sistem, baziran na internetu, omogućava hotelima ove Grupe da na mesečnom nivou unose podatke prema region i drugim kriterijumima. Program inovativnog hotela u lancu hotela IHG uključivao je i potrošače (goste). Cilj je bio stvaranje ekološkog hotela koji je namenjen maksimalnom zadovoljavanju potreba životne sredine i na različite načine profilisani izbor potrošača (gostiju). Kreiran je interaktivan sajt inovativnog hotela, na kome se prikazuje implementacija najbolje ideje o dizajnu, razvoju i operacijama.

Na web sajtu se komentariše svaka inovacija i plasiraju nove ideje. Odgovori iz upitnika, koji se odnose na nove ideje, vezani su za razvoj projekata inovativnog hotela, i grupisani su u tri kategorije: (1) štednja energije, (2) štednja vode, i (3) odgovornost u lancu snabdevanja.

Lanac hotela IHG se opredelio za širenje projekata Inovativnog hotela, a to je samo prva faza u realizaciji strategije razvoja ekološki održivog lanca zelenih hotela širom sveta.

Diskusija

Svako savremeno okruženje (životna sredina) u kome posluje turističko preduzeće ili hoteli zahteva postojanje strategije koje pomažu pri rešavanju problema društvene odgovornosti. Nove i inovirane strategije mogu se svrstati u četiri podgrupe (Petrović, 2018).

- (1) Opstruktivna strategija – preduzeća negiraju odgovornost u nastojanju da održe status quo (boriti se na sve načine);
- (2) Defanzivna strategija – koriste se zakonska sredstva i marketinške akcije da bi se izbeglo preuzimanje dodatnih odgovornosti (učiniti samo ono što zakon zahteva);
- (3) Adaptivna strategija – preduzeće prihvata, često pod pritiskom, društvenu odgovornost za svoje akcije, pokušavajući ispuniti ekološku, zakonsku i etičku odgovornost (prihvatanje društvene odgovornosti);
- (4) Proaktivna strategija – preuzima se vođstvo u društvenim pitanjima definisanih programima društvene odgovornosti koji služi kao model drugima (preuzimanje društvenih inicijativa);

Diskusija o društveno odgovornom poslovanju postaje deo rasprave u svakom sektoru turističke industrije, ka o uopšte u korporativnom poslovanju. Sve više ljudi upoznaje i “naličje” turizma u njegovoj izobličenosti kao važan factor savremenih problema. U pitanju su rastuće količine otpadnih gasova, štetnih po klimu zbog intenzivnog automobilskeg i avionskog saobraćaja, uticaja na životnu sredinu neprilagođenom gradnjom, opterećivanje okoline nepromišljenim

odstranjivanjem smeća i otpadnih voda i neadekvatnom uvažavanju i obazrivosti prema stanovništvu koje živi na toj destinaciji, lokalnoj kulturi i običajima. Širenjem ekoloških principa i aktivnosti u hotelijerstvu dovelo je do pojave “Green hotela” u kojima je, praktično, sve podređeno ekologiji. Znači, počev od hrane (“zdrava hrana”), pa do toga da gosti ne dobijaju šampone u sobama, u plastičnim kesicama, ili je ona podložna reciklaži. Sa građevinskog aspekta ti hoteli predstavljaju “zdrave zgrade” i sagrađeni su od prirodnog materijala, bez azbesta, šljake, formaldehida, iverice, staklene vune, raznih nezdravih vlakana, sintetičkih toplih podova, itisona i drugih neprirodnih i nezdravih materijala. U projektovanju eko-hotela koristi se mašta i kreativnost, a napušta se ideja hotela “kolosa” i mastodontskih hotela. Grupacija hotela IHG (InterContinental Hotels Group) uvodi inovacije u gradnji hotela (solarna energija, zeleni krov, skupljanje kišnice, razgledanje okoline, društveni projekti). To je način da postiču viši nivo konkurentnosti ali i veliku korist društvu i prirodi (održivi razvoj, smanjenje nezaposlenosti, pozitivan efekat na privredni razvoj zemlje). Ovi projekti pokazuju visok nivo ekološke svesti ovog hotelskog lanca, kao deo koncepta svestrane društvene odgovornosti.

U Srbiji hotel “Hyatt Regency” je još 2000 godine formirao Zeleni tim koji se odnosi na integralnu primenu eko-hotela. Potrošnja energije je smanjena za oko 20 procenata, uveden je novi toplotni sistem “HVAC” tako što je implementiran prekidač u sobama hotelskih gostiju, kao kontrola svetla, instalirani senzori u kancelarijama. Ukupna društvena odgovornost predstavlja jedno od najvažnijih oruđa u izgradnji hotela koji je u savremenom hotelijerstvu, možda i najvrednija imovina svakog hotela u hotelskom lancu.

Zaključak

U turizmu a posebno u hotelijerstvu, kao radno intenzivnoj oblasti poslovanja, društvena odgovornost predstavlja jedan od najdinamičnijih koncepta savremenog poslovanja i funkcionisanja u turbulentnom okruženju. Poslovna etika, korporativno građanstvo, korporativni društveni angažman, delovanje u zajednici, samo su neki od termina koji, u suštini, sadrže koncept društvene odgovornosti svih privrednih subjekata u brojnim delatnostima. To znači da se zalažu (ali i meri) za uticaje svojih stvarnih i potencijalnih odluka, na ekonomsko, društveno i prirodno okruženje u lokalnoj zajednici. Istravajući na poštovanju filantropskog načela u poslovanju hotela je prihvatanje koncepta društveno odgovornog poslovanja. Međutim, potrebno je razlikovati donacije od sponzorstva jer od donacija to je davanje bez protivusluge, a kod sponzorstva postoji protivusluga. Donacija predstavlja davanje u novcu, stvarima ili uslugama onom koji to zslužuje, i to su davanja u novcu, stvarima ili uslugama primaocu i to bez ikakve

naknade ili protivusluge. To su dobrotvorna davanja humanitarnog, socijalnog i opštekorisnog karaktera, te za nju nije potrebno urediti ugovor, međutim mora postojati pisana odluka o darivanju koja mora sadržavati bitne elemente (ko se daruje, iznos donacije i koji je oblik za te svrhe). Suprotno, sponzorstvo označava određeno novčano davanje ili davanje u nadoknadi od donora a zauzvrat se očekuje protivusluga od sponzorisanе osobe, sa kojom se sklapa ugovor o sponzorstvu preko kojeg se uređuju prava i obaveze sponzora, te primaoca sponzorstva. Davanje po osnovu korporativne filantropije zadovoljstvo nalazi u pozitivnoj društvenoj promeni ili podršci nekoj društvenoj vrednosti. Odgovorno hotelsko poslovanje prosto kreira uslove za odgovorne vidove menadžmenta koji su osetljivi sa aspekta poslovne kulture. Taj model poslovanja u hotelijerstvu donosi dobit lokalnoj zajednici, a pritom i gostima na konkretnoj destinaciji. S druge strane su vidovi hotelijerstva koji se mogu unapeđivati i efikasnije upravljati a u cilju minimiziranja negativnih efekata koji se javljaju tokom poslovanja. Na primeru hotelskih lanaca CrownContinental i IHG Group sprovedeni su program korporativne odgovornosti, može se sagledavati kreiranje Brenda i efikasno sprovođenje koncepta društvene odgovornosti. Na osnovu prikupljenih podataka iz istraživanja, definisano je pet ključnih oblasti za sprovođenje te strategije: okruženje, razvoj zajednice, usluge korporacije, integracija brendova i komunikacija sa okruženjem. Istraživanje je pokazalo da u hotelijerstvu, ka oi u drugim privrednim delatnostima, društveno odgovorno poslovanje predstavlja vrlo bitan elemenat poslovne izvrsnosti. Društvena odgovornost hotela odnosi se na rešavanje ekoloških problema na nivou društva ili lokalne zajednice, rešavanje zaposlenosti, problematike potrošača (gostiju), odnosa sa dobavljačima, podizanje nivoa konkurencije i niz problema lokalne zajednice i lokalnog stanovništva.

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SOCIAL RESPONSIBILITY OF MODERN HOTEL COMPANIES - AN EXAMPLE OF THE INTERCONTINENTAL HOTELS GROUP HOTEL CHAIN

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Abstract

To respond to customers' increasingly demanding wishes, the hotel complex applies total quality management in which the concept of corporate social responsibility is at the forefront. This research aims to highlight the advantages of implementing this strategic commitment. Those benefits include the satisfaction of internal and external customers, public opinion, an increase in revenue, cost savings, and brand building. Awareness, potential for change, and motivation are necessary for applying total quality management as a hotel organization's philosophy. Hotel companies represent very sensitive components of the society in which they operate and exist; therefore, in addition to the mission, vision, and goals for which they operate, they should take great care of their impact on the environment. The increased level of responsibility for maintaining a healthy environment in which hotels operate has strengthened their social responsibility. Apart from restrictive laws and economic measures (the polluter pays) and accompanying legislation, environmental protection has led the hotel industry to conduct its business in an environmentally acceptable manner. International environmental management standards enable hotels to apply and achieve the concept of sustainable development. The business policy of hotel companies accepts comprehensive dimensions of social responsibility. Changes in the direction of adaptability, application of new technologies, and faster development are increasingly reflected in broader social interests, and managers strive to contribute to the broader interests of society. The innovativeness of the tourism industry and its ability to adapt to technological (ICT) and social changes is one of the main prerequisites for competitiveness and survival in the market. The requirements of standards, a higher level of environmental awareness, and measures against environmental polluters are why systemic environmental protection management is necessary.

Keywords: social changes, environment, hotels, guests, responsibility.

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Introduction

In the hotel industry, numerous innovators and managers have long since recognized the potential of total quality management as an essential success factor on the market, especially in general economic crises that have shaken the world economy since the beginning of this century. This concept lowers quality costs while improving work processes, productivity, and product and service quality. In this concept, difficult-to-measure elements are apostrophized, such as maintaining good relations with hotel guests, suppliers, employees, owners, the general public, and the environment, and especially care for the environment, which should be protected from adverse effects. In introducing the concept of social responsibility in the Serbian hotel industry, hotels that are part of international hotel chains with many years of experience implementing that concept and have the necessary infrastructure for implementing an integral program took the lead. This is manifested in the possession of modern technologies, capital, and knowledge. At the beginning of this century, hotels from this group of hotels in Serbia have been developing and implementing a series of programs from the scope of social responsibility to help solve natural and social problems and improve relations with clients, employees, and suppliers. The rapid development of the processing industry led to the emergence of the concept of socially responsible business - CSR (Corporate Social Responsibility). Numerous general crises caused by economic (financial) and non-economic reasons (epidemics, wars, earthquakes, droughts, floods) caused significant changes in the approach to business and available resources, which are massively and spontaneously consumed. Socially responsible behavior is based on mutual trust and a common approach to future business, creating a responsible connection between the business environment and the broader social community. Today, many hotels operate within hotel chains, and they operate locally, respecting the principles of social engagement. Their business culture is involved in developing the local community and environmental protection. This is the primary concern, as well as companies from other economic activities, in an increasingly turbulent market. By making efforts to preserve the environment, hotel chains can reduce the negative impact on the environment to a low level, that is, direct their development to a higher level of environmental sustainability. This refers to using resources (primarily energy) and waste material. It is about implementing the environmental protection system (part of the overall hotel management), EMAS, which refers to the hotel chain development model. In Serbia, this problem is often treated as an expense, not a rationalization of business. In domestic hotel companies, it is necessary to emphasize the importance of responsible business in society, in the hotel itself, with the local self-government, and with numerous hotel guests.

Necessity for socially responsible changes in the hotel industry

All initiatives related to integral social responsibility in the hotel industry must be considered investment activities. This is because those hotels that can implement programs of efficient use of all resources to create their products and services and to reduce environmental pollution, in addition to high initial costs, can operate with much lower costs in the future. In overcoming numerous social problems, hotels assist the local community, which builds trust and improves the hotel's image at the local, regional, and national levels. On the other hand, it motivates numerous stakeholders, including employees, clients, suppliers, and investors, to remain loyal to the hotel. Research has shown that hotel employees in Serbia are satisfied with the results of implementing the social responsibility program. They believe these programs bring many benefits regarding cost levels, hotel products and services quality, work environment, and relations with clients, stakeholders, and the local community. Goodwill is being built, as well as the hotel's image, the trust of guests and the environment, and the trust of guests and stakeholders. This concept brings several advantages in market positioning and differentiation, thus gaining a competitive advantage, especially in economic crisis and globalization conditions. In the coming period, further improvement of the concept and program of social responsibility can be expected, especially considering the level of investment in these activities and the number of advantages that arise from them. Especially from the aspect of the specificity of hotel companies, numerous benefits are realized for them by activities aimed at solving environmental problems in the locality, bearing in mind that hotels have an excellent interaction with the environment, and that circumstance is irreplaceable. Unique benefits from such determinations are the labor force that is recruited locally, as well as numerous suppliers. Such a relationship affects a greater degree of activity at a specific destination. A particular need is expressed by investing in training and retaining quality staff, nurturing relationships with suppliers, preserving and improving the destination's attractiveness, short-term operational efficiency can be improved, and favorable market evaluations of a higher level of profitability in future business. Then, in continuity, many questions will be asked about evaluating socially responsible performances.

However, in the hotel industry, there is no unique model for measuring returns on any investment in this business concept; subjective measures remain in circulation to evaluate these investments (Carroll, 2000). Human capital is a significant source of competitiveness, more than in other industries, in the hotel industry, because it directly affects the quality of the hotel product and service. It is about enhancing the satisfaction of external customers and guests at the destination. In

addition, with "good word" and word of mouth spread, absenteeism and resignations decrease. This way, the costs of employment recruitment and training potential employees in a specific hotel are reduced (Vitaliano, 2010). Quality relations with employees imply the level at which the hotel company respects the legal rights of employees and the expectations of society (safety, health, pension insurance, working conditions, etc.). Good relations with employees and product categories are the only two dimensions that positively affect profitability. However, the company's involvement in solving problems of the natural environment, community, and diversity has a more significant positive impact on the company's attractiveness as an employer and increasing value for owners (Stone & Heiner, 2002). The social responsibility of hotel companies includes responsibility, transparency, ethics, respect for stakeholders, laws, and people's rights. International hotel chains, such as Holiday Inn, Accor, Marriott, Hyatt, InterContinental, and others, widely apply this standard as they can introduce expensive programs to reduce energy and water use, recycling, etc.

Subject and Research Methods

Hotels operated as separate entities for a long time and were often irresponsible towards nature. Over time, an awareness of the moderate use of natural resources and the preservation of the surrounding areas has developed, with increased profitability and guest satisfaction. The goal of this research is to, based on the available literature and knowledge in the hotel business in Serbia, provide a specific contribution to responsible hotel behavior by applying environmental management standards in the hotel industry. Standard scientific methods were applied during this research: historical, descriptive, and statistical methods. From the degree of investigation of this problem, it is considered that the concept of socially responsible operation of hotels is considered. In Serbia, the philosophy of business and its essence is relatively new and, therefore, needs more research. The primary hypothesis was set up to prove the level of responsible behavior and the impact on creating an image of a "good corporate citizen." Glassi's auxiliary hypothesis is that ethical behavior within the social responsibility framework refers to moral responsibility that plays a significant role in the behavior of individuals and groups. Then, it is necessary to point out the level of implementation of international standards of environmental management, which enables hotels to, in the management system, unify the management of environmental effects and to achieve compliance of this policy and practice with their mission and business goals. "New guests" prefer to come to an environmentally friendly hotel.

It should be noted that different sectors in the tourism industry have different attitudes towards socially responsible business. Depending on the size and location of the hotel, attitudes towards such oriented business differ. In practice, engagement in the responsible and sustainable development of a tourist destination is positively related to the concept of responsible business and its implementation. "Corporate social responsibility is the constant obligation of the business world to behave ethically and contribute to economic development while at the same time improving the quality of life of both the workforce and their families, as well as the local community and society in general" (WBCSD, 2011). The socially responsible behavior of hotel companies is based on relying on four interdependent pillars (Petrović, 2006):

- Employees - adopting policies and practices towards the workforce, taking care of them and their random environment, and ensuring safety and health;
- Market - responsible relationship with shareholders, investors, suppliers, and guests, with all those who have a business relationship with hotels;
- To the community - the most visible aspect of the hotel's socially responsible business behavior. Businesses in this area depend on direct connections between the hotel company and the environment, and it is based on the knowledge of these companies about the needs and problems of the local community.
- Ecology - determining the balance between the need for economic growth and the preservation of a healthy natural environment, which does not imply the inclusion of the principles of ecological sustainability and the daily operations of a specific hotel.

Data Sources

The international hotel chain InterContinental Hotels Group is recognizable for its developed online research system, and it started collecting data through questionnaires on websites as early as 2000. It was then concluded that the data collected this way was suitable for research. This refers to collective research concerning the needs of consumers (hotel guests), the market, and the hotel's and its employees' performance. Although data collection is not an ideal solution for a hotel company, according to an iPerceptions survey of website visitors' satisfaction in the hotel industry. Visitors to the websites of this hotel chain are more satisfied with their online experience than average (www.ihgplc.com). Visitors measure satisfaction (iPerceptions et al. - iPSI). The visitors to these sites are delighted, above the average (6.9) out of a possible 10, where the five most essential elements of the Website are mainly evaluated: navigation, content, interactivity, motivation, and adaptability. All these questionnaires are in the hotel

chain's database. Three significant factors (www.InterContinentalhotels.com) give more excellent value to the site rating: (1) the ability to create customer loyalty, (2) encouraging repeat visits, and (3) is a starting point for market research in the hotel industry,

Visitor opinion data was collected along four domains (www.ihgplc.com): (1) energy consumption, (2) total recycling; (3) total water consumption and (4) conservation of the destination; Visitors (guests) can give ratings from 1 to 5, for the following domains (Petrović, 2021):

- solar panels on the roof for heating water;
- garden on the roof for additional insulation;
- furniture made of recycled materials;
- rainwater collection systems;
- paints based on void;
- donating leftover food;
- carpets made of natural materials;
- light bulbs that save energy;
- showers and faucets that save water;
- toilets with a dual flush;
- non-toxic, biodegradable cleaning agents;

Two basic types of questionnaires were used as a research instrument:

- a) an online questionnaire and
- b) a questionnaire sent to an e-mail address (to the most loyal consumers);

The website visitors left the following information: e-mail address, age, level of education, size of the company in which they are employed (small, medium and large) and frequency of travel: less than once a year to several times a week). Two-way means that employees were also involved as a marketing team to analyze the data obtained in previous surveys concerning consumer (guest) satisfaction. The hotel company used internal data in profit and loss reports and sales reports, i.e., previously collected data. This data was necessary to create an innovative hotel project, respecting the wishes of current and potential guests. The primary data was from the questionnaire on the hotel's website.

Material and applied methodology - responsible hotel management

In the very definition of tourism, there is a section on environmental protection where it is stated (World Travel & Tourism Council, 2002): "Tourism is one of the largest sources of economic activity, but at the same time, it is important for the power of sustainability, raising the standard of living in underdeveloped areas,

promoting conservation natural and environmental environment and providing means for peaceful international exchange".

Hotel chains are mostly corporately organized, meaning they cover all three dimensions of sustainable environmental, economic, and social aspects. On the other hand, one can notice an increasing number of responsible tourists who prefer programs and hotels that operate socially responsibly (Petrović, 2008). Long-term and responsible tourism development, with an emphasized qualitative approach, is at the center of thinking (Živković, 2009). Responsible tourism, and thus the hotel industry, has many characteristics. Different destinations and participants have different priorities, and it is necessary to develop local policies and guidelines through the cooperation of several participants in order to develop responsible tourism in specific destinations more effectively. Undeniably, even in responsible hotel business, based on legal parameters, profit should be created for shareholders (Friedman, 1992). This usually refers to the reduction of costs in order to improve energy efficiency, and it refers to the increase in ethical consumerism, which ultimately shows how responsible business affects the increase in income (Pizam, 2009). In 2017, before the onset of the pandemic, the IHG hotel chain conducted a general management survey to gain insight into how brands support the local community and implement social programs. Data collection was done based on internal and external sources, at meetings, through interviews with employees and guests, and based on questionnaires. In addition to users, supplier feedback is of great importance for a better understanding of corporate performance and potential risks and opportunities (IHG, 2018). IHG, as a global hotel chain, processed over 200,000 questionnaires in 2018 to complete the research. From the structural aspect of the survey, 65% of women and 35% of men were included, with an average age of 39 years. Of the total number of respondents, over 69% were employed in large companies, 27% in medium-sized companies, and only 0.7% of respondents were unemployed and retired.

Research Objectives

In modern conditions, the reasons for the introduction and application of socially responsible business can be divided into four categories: (1) ethical - moral standards; (2) sustainability - it makes sense when the implementation of measures has an economic justification (reduction of energy consumption or less waste, but it is more difficult to justify in other cases (transparency of corruption); (3) work permits - represents a confrontation with issues important to shareholders, encourages dialogue with the public, legislation, activists, etc.; (4) reputation - the positive perception among customers (guests) through influencing social changes, strengthening the value and recognition of the market brand/brand

and managing risks that strengthen the reputation of financial institutions. Environmental protection is a critical mission of the hotel industry. Hotel chains and companies increasingly accept proactive management of environmental protection, which can increase economic and competitive gains and, at the same time, ensure compliance with the law. Environmental protection implies the application of "healthier" technologies, more responsible use of resources, reducing emissions for environmental protection, adopting environmental standards, and employee relations in that domain. A prime example of a socially responsible business in the hotel industry is the Crown Intercontinental hotel chain, which, together with the Best Western International chain, is the largest hotel chain with more than 4,000 hotels in 90 countries.

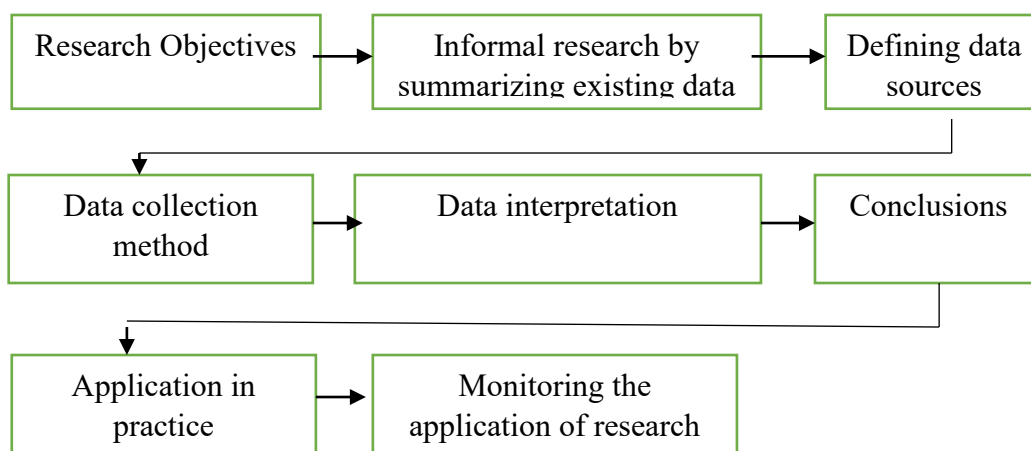
This hotel chain has established a relationship with the environment by creating and implementing its specific programs. As a result of their commitment to philanthropy, all employees respect the intended program for the community. The community's needs are respected by responding to its immediate and ongoing needs with their human, accommodation, and financial resources while respecting teamwork (www.crownintercontinental.com). This hotel chain has a long-term contract with World Vision, a leading agency to help children and youth. They are supported in the form of monthly donations. Each hotel, in the form of a contribution, pays monthly for food, healthy water, healthcare, education, and ecological development. This chain helps non-profit organizations by raising funds for specific events at the local level. The Committee for Responsible Business organizes parties and creative activities for employees annually. This hotel chain provides "green support" to hotels in the form of the "Go Green" program and provides funds and training as a form of support for these activities.

Research objectives of the IHG hotel chain

- 1) What is the attitude of hotel and website visitors about developing a new hotel product?
- 2) Which characteristics of the new product are the most important for the consumer?
- 3) Has the company omitted from the project some of the product features that are significant for consumers?

This hotel chain created a research plan with eight main determinants, with a clear vision expressed in that plan.

Figure 1. Research Plan IHG Group



Source: www.IHGgroup.com

Informal research was carried out after the defined goals by collecting existing data on consumer attitudes related to the importance of the hotel's social responsibility. Through E-Concierge, an online service for guests of any hotel from the IHG group of hotel chains, information and wishes of potential guests are collected. This system is directly connected to the InterContinental Website. It allows users an interactive overview, from which they get information about the surroundings, opportunities for going out, entertainment, shops, and many exciting places.

IHG summarized the data obtained from the Questionnaire filled out by guests during 2018 as follows:

- (1) Social responsibility is significantly related to reputation, according to 84% of respondents;
- (2) Innovative social responsibility programs strengthen brand awareness, 73% of respondents;
- (3) So far, 61% of respondents have not joined the Project but would like to;
- (4) For an ecologically sound product, 55.5% of respondents are ready to pay up to 5% more for such a hotel;

Research Process

The CrownIntercontinental Hotel is an excellent example of social responsibility, and the following social responsibility initiatives have been undertaken:

- (1) Education support - interactive library on wheels, free books;
- (2) Waste management and disposal

- Costs of energy, raw materials, and live labor are reduced to the lowest possible level with a reduction of residues and waste;
- The use of lighting, heating, and air conditioning is monitored to prevent unnecessary consumption;
- Energy-saving light bulbs are installed in all places where it is feasible;
- Two-jet toilets are being introduced in order to reduce water consumption;
- Rooms equipped with thermostatic valves on radiators;
- Electronic mail is printed only when necessary;
- Advertising and information are published on the site to save paper;

(3) Recycling

- All waste paper and cardboard is separately separated for recycling;
- Printing toners are recycled for charity;
- Paper packaging is used wherever possible;
- Cooking oil is collected to be used for biodiesel;
- All glass packaging is recycled;
- Bed linen is changed at intervals that do not diminish the guest's satisfaction;

(4) Support to the local community

- The hotel is included in school practice programs;
- Charitable donations;
- All food is procured locally;
- Domestic drinks are served and promoted;
- The hotel offers discounted accommodation to local businesses;
- The hotel supports local facilities and attractions;
- The hotel constantly monitors and improves its reputation in the local area;

(5) General

- The hotel has all licenses and certificates for environmental protection;
- The hotel also welcomes the owner's dogs, offering them special programs;
- The hotel encourages staff training in the form of special seminars and training;
- The hotel also has a parking lot, rooms, toilets, and elevators, all intended for people with disabilities;
- Windows and furniture are cleaned with distilled water without the use of chemicals;

All eco-hotels are recognizable by their design, and in particular, the built-in materials, the organization of work operations (solar heating, energy consumption, recycling), and equipment (ecological bedding, and content (healthy food), maximally in the function of preserving the natural environment in which they are located, with all ecological contents (Čačić, 2011);

Research conducted by the IHG hotel chain shows that hotels support the community in many ways. For example, 63% of hotels provide free accommodation, while 39% donate food and drinks.

Overview 1. A way to support the community from IHG brands

Indicator 2019 (%)	Relative participation
1) Handicapped and elderly people	37%
2) Supporting minority diversity 25%	
3) Other	13%
4) Community development	50%
5) Staff training	69%
6) Programs for young people - education	50%
7) Art and Culture	36%
8) Assistance to victims of disasters	29%
9) Environment	53%

Source: www.IHGgroup.com

Research conducted in 2018 in the Asia-Pacific region indicates that 36% of hotels within this chain allow volunteering, and 38% provide free nights, many of which are used as prizes in various charitable actions. Certain hotels with groups Group provide complimentary conference rooms to charitable organizations. In this region, 32% of the group's members measure the effects of their social activities and 76% report to the public about various initiatives.

Table 1. The results of the survey of satisfaction with the existing conceptual solutions

Ideas	Average points	Total points	In %
1) Energy-saving light bulbs	5	9900	99
2) Donating leftover food	5	9700	97
3) Solar panels on the roof	5	9500	95
4) Roof garden	5	9470	94,7
5) Furniture made of recyclable materials	5	9215	92,1

6) Wind-powered electricity	4	7900	79,8
7) Carpets made of natural materials	4	7900	79
8) Non-toxic - biodegradable cleaning agents	4	7890	78,9
9) Water-based paints	4	7650	76,0
10) Rain collection system	4	7500	75,0
11) Showers and water-saving celebrities	3	5900	59,0
12) Toilets with dual flush	3	5800	58,9

Source: www.ihotelsgroup.com

With the introduction of modern ICT systems, the hotel company set as its goal an increased volume of reporting, as well as the universality of the report, with the tendency to expand the research to as many hotels as possible. This company has developed a unique management tool, ESCAP Enviro, that measures the environmental performance of hotels, electricity consumption, water consumption, and waste generation. A complexly created information system based on the Internet enables the hotels of this Group to enter data according to region and other criteria every month. The program of the innovative hotel in the IHG hotel chain also included consumers (guests). The goal was to create an ecological hotel to meet the environment's needs as much as possible and profile the choice of consumers (guests) in different ways. An interactive website of an innovative hotel was created, showing the implementation of the best ideas about design, development, and operations. Every innovation is commented on on the website, and new ideas are marketed. The responses from the questionnaire, related to new ideas, are related to the development of innovative hotel projects and are grouped into three categories: (1) energy saving, (2) water saving, and (3) responsibility in the supply chain.

The IHG hotel chain decided to expand the Innovative Hotel projects, and this is only the first stage in the realization of the strategy of developing an ecologically sustainable chain of green hotels around the world.

Discussion

Any modern environment (environment) in which a tourist company or hotel operates requires the existence of a strategy that helps to solve the problem of

social responsibility. New and innovative strategies can be classified into four subgroups (Petrović, 2018).

- (1) Obstructive strategy – companies deny responsibility to maintain the status quo (fight by all means);
- (2) Defensive strategy – legal means and marketing actions are used to avoid assuming additional responsibilities (do only what the law requires);
- (3) Adaptive strategy - the company accepts, often under pressure, social responsibility for its actions, trying to fulfill environmental, legal, and ethical responsibility (acceptance of social responsibility);
- (4) Proactive strategy – taking the lead in social issues defined by social responsibility programs that serve as a model for others (taking social initiatives);

The discussion about socially responsible business is becoming part of the discussion in every sector of the tourism industry and, in general, corporate business. More and more people are getting to know the "backside" of tourism and its distortion as an essential factor of modern problems. At issue are growing amounts of waste gases, harmful to the climate due to intensive automobile and airplane traffic, impact on the environment through inappropriate construction, burdening the environment through reckless disposal of garbage and wastewater, and inadequate respect and consideration for the population living in that destination, local culture and customs. The spread of ecological principles and activities in the hotel industry led to the emergence of "Green hotels" in which, practically, everything is subordinated to ecology. So, starting with the food ("healthy food"), up to the fact that the guests do not receive shampoo in the rooms, in plastic bags, or it is subject to recycling. From the construction aspect, these hotels represent "healthy buildings." They are built from natural materials, without asbestos, slag, formaldehyde, chipboard, glass wool, unhealthy fibers, synthetic warm floors, and other unnatural and unhealthy materials. In the design of eco-hotels, imagination and creativity are used, and the idea of "colossus" and mammoth hotels is abandoned. The IHG (InterContinental Hotels Group) hotel group introduces innovations in hotel construction (solar energy, green roofs, rainwater harvesting, sightseeing, and social projects). It is a way to achieve a higher level of competitiveness and a great benefit to society and nature (sustainable development, reduction of unemployment, positive effect on the country's economic development). These projects show this hotel chain's high level of environmental awareness as part of the concept of comprehensive social responsibility.

In Serbia, the "Hyatt Regency" hotel formed a Green Team in 2000, which refers to the integral application of eco-hotels. Energy consumption was reduced by about 20 percent, and a new heating system, "HVAC," was introduced by implementing a switch in hotel guests' rooms, bass control of lights, and installed sensors in offices. Social responsibility is one of the most essential tools in building a brand. In the modern hotel industry, it is the most asset of every hotel and hotel chain.

Conclusion

In tourism and especially in the hotel industry, as a labor-intensive business, social responsibility represents one of the most dynamic concepts of modern business and functioning in a turbulent environment. Business ethics, corporate citizenship, corporate social engagement, and action in the community are some of the terms that, in essence, contain the concept of social responsibility of all business entities in numerous activities. This means that they advocate (but also measure) the impacts of their actual and potential decisions on the local community's economic, social, and natural environment. Persisting on respecting the philanthropic principle in the hotel business is accepting the concept of socially responsible business. However, it is necessary to distinguish between donations and sponsorships since donations are given without a return service, while with sponsorship, there is a return service. A donation is a gift of money, things, or services to the one who serves it, and these are gifts in money, things, or services to the recipient without any compensation or consideration. These are charitable donations of a humanitarian, social, and general-purpose character, and drawing up a contract is unnecessary. However, there must be a written donation decision that contains essential elements (who is being donated, the amount of the donation, and what form it takes for these purposes). On the contrary, sponsorship means a specific monetary donation or compensation from the donor. In return, a counter-service is expected from the sponsored person, with whom a sponsorship contract is concluded, through which the rights and obligations of the sponsor and the recipient of the sponsorship are regulated. Giving based on corporate philanthropy finds satisfaction in positive social change or support of a social value. Responsible hotel business creates conditions for responsible types of management that are sensitive to the aspect of business culture. This business model in the hotel industry brings profit to the local community and, simultaneously, to the guests at the specific destination. On the other hand, some types of hotel businesses can be improved and managed more efficiently to minimize the adverse effects that occur during business. In the example of hotel chains CrownContinental and IHG Group, a corporate responsibility program was

implemented; one can see the creation of a brand and the effective implementation of the concept of social responsibility. Based on the collected research data, five key areas were defined for implementing that strategy: environment, community development, corporate services, brand integration, and communication with the environment. Research has shown that in the hotel industry, as well as in other economic activities, socially responsible business is an essential element of business excellence. The hotel's social responsibility refers to solving environmental problems at the level of society or the local community, solving employment, consumer (guest) problems, relations with suppliers, raising competition, and several problems of the local community and the local population.

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ULOGA MONETARNE POLITIKE U OBEZBEĐIVANJU MAKROEKONOMSKE STABILNOSTI

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Rezime

Uzroke krize zajedničke valute Evropske unije možemo posmatrati kao urušavanje same Evrope kroz korišćenje zajedničke valute koja spaja 18 zemalja na kozišentan i uređen sistem. Grčka, Portugal, Španija, Italija i Irska su bile na ivici finansijskog bankrotstva što je moglo da izazove urušavanje celokupnog finansijskog sistema Evrope i ostalih globalnih tržišta. Evropska unija je pokazala da ima snage da se izbori sa finansijskom krizom koja ju je potresla. Neophodnost usklađivanje monetarne politike na nivou Evropske unije i fiskalne politike na nivou svake njene članice pokazala se kao neophodna mera kako bi zajednička valuta mogla i dalje da funkcioniše. U radu je obrađena problematika krize javnog duga zemalja članica Evropske unije, neusklađenost monetarne i fiskalne politike.

Ključne reči: *menadžment, Evropska unija, javni dug, monetarna politika, fiskalna politika*

JEL: *E5, E6, F4*

Uvod

Evropa je tokom svoje burne istorije konstantno bila u ratnim sukobima. Ovi ratovi su se vodili na svim delovima kontinenta i doveli su do gubitaka velikog broja ljudi, uništavanja gradova, raspada carstava i država. Zemlje koje su vodile ratove nisu imale interesa da međusobno trguju, razvijaju svoje ekonomije. Evropa je bila mesto gde su trgovinske barijere, tarife i različite valute umnogome otežavale razvoj država. Bilo je potrebno platiti naknadu kako biste razmenili

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sopstvenu valutu za valutu države u kojoj hoćete da izvršite neko plaćanje ili kupovinu. Nakon ovoga bilo je potrebno platiti novu naknadu kako bi bilo moguće izvršiti plaćanje između dve države. Ovako organizovan sistem je samo sputavao razvoj i dovodio do stagniranja ekonomija.

Drugi svetski rat je doneo do tada neviđene mere uništenja, razaranja svega što je postojalo u Evropi. Industrijski kompleksi, infrastruktura i ekonomska aktivnost na nivou kontinenta je bila uništena. Zbog nastale loše situacije, najbrži način oporavka Evrope je bilo uklanjanje svih barijera (Obrić & Majstorović, 2023). Uvedena je lakša razmena roba i kapitala što je imalo za posledicu ubrzavanje trgovine između zemalja Evrope i stvaranja ideje jedinstvene Evrope koja će se osloboditi ratova, uništenja i kroz međusobno udruživanje, Evropa bi postala mesto gde se u miru trguje i razvija ekonomija. Sve države bi se ujednile u jedinstvenu uniju što bi imalo za cilja da se svi budući ratovi više ne vode.

Zemlje su polako krenule da teže ovoj ideji. Prvo su ukinute trgovinske i carinske barijere što je dovelo do snižavanja troškova poslovanja. Poslednja etapa uklanjanja svih barijera je bio pad Berlinskog zida. Sa ujedinjenom Nemačkom, Evropa je bila spremna za ujedinjenje kontinenta (Septiani et al., 2024).

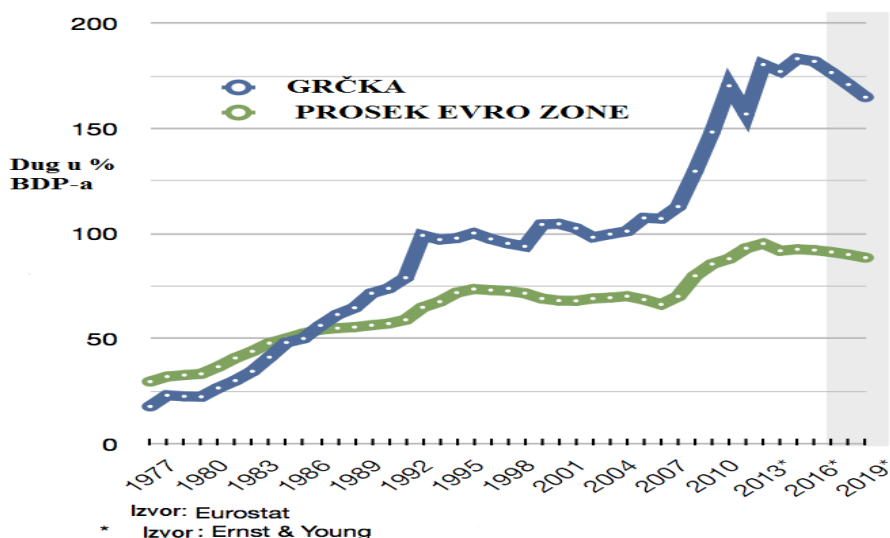
Dvanaest država je potpisalo 7. februara 1992. godine Mاستritski ugovor koji je imao za cilj stvaranje Evropske unije. Ugovor o stvaranju Evropske unije potpisan je u Mاستriktu u Holandiji. Stupio je na snagu 1993. godine. Nakon ovoga, ekonomski procesi u Evropi su se odvijali mnogo lakše i slobodnije. Najveći problem koji je ostao bio je i glavni, a to su različite valute koje su koristile zemlje Evrope. Nakon sveobuhvatne analize i priprema, našlo se i rešenje za ovaj problem, a to je stvaranje zajedničke valute. Prvog januara 1999. godine, zemlje evro zone su usvojile evro kao svoju zajedničku valutu i storen je prostor na kome je krenula da funkcioniše Evro zona (Savić et al., 2025). Ovim je napravljen diskontinuitet u odnosu na korišćenje domaće valute zemalja i upravljanje pojedinačnim monetarnim politikama. Upravljanje monetarnom politikom je predato novoj instituciji kojoj su delegirana nacionalna i suverena prava država i stvorena je Evropska centralna banka. Evro zona od tada ima jedinstvenu monetarnu politiku koju je vodi Evropska centralna banka ali je ostalo na zemljama članica Evropske unije da sami vode fiskalnu politiku. Ovakvo ustrojstvo monetarne i fiskalne politike na nivou Evropske unije i Evro zone je ključni razlog stvaranja krize javnog duga među njenim članicama.

Monetarna politika naspram fiskalne politike

Neophodno je razumeti uticaj vođenja monetarne politike naspram uticaja vođenja fiskalne politike. Monetarna politika u svojoj osnovi kontroliše količinu novca koja se nalazi u opticaju i kolike su kamatne stope na pozajmljivanje tog novca (Klincov et al., 2022). Fiskalna politika sa druge strane, rukovodi se koliko novca država prikuplja kroz poreze i druge namete kao i koliko novca država troši.

Vlada određene zemlje može da potroši onoliko novca koliko prikupi kroz poreze i ostale fiskalne i nefiskalne prihode (Habibi & Zakiah, 2023). Svako trošenje preko ove granice zove se deficitarna potrošnja i Vlada mora da obezbedi izvore novca za ovakvo finansiranje.

Pre uvođenja eura, države poput Grčke, morale su da plaćaju visoke kamatne stope prilikom zaduživanja. Takođe, kreditori su bili obazrivi i nisu dopuštali Grčkoj da se prekomerno zadužuje (Petrović et al., 2024). Nakon ulaska Grčke u Evro monetarnu zonu, ova situacija se promenila. Grčkoj je bilo dopušteno da se zadužuje po nižim kamatnim stopama kao i da prikuplja mnogo više novca i kapitala nego ranije.



Slika 1. Odnos javnog duga Grčke i Evro zone u periodu od 1977. do 2019. godine

Izvor: https://commons.wikimedia.org/wiki/File:Greek_debt_and_EU_average_since_1977.png

Manje zemlje sada imaju pristup kreditnim linijama što ranije nije bio slučaj. Grčka je pre ulaska u Evro monetarnu zonu plaćala oko 18% na zaduživanje dok se nakon ulaska ova situacija promenila. Sada je mogla da se zadužuje po kamatnim stopama kao Nemačka što iznosi oko 3%. Razlog leži u Nemačkoj globalnoj finansijskoj moći (Golubović & Janković, 2023). Ulazak u Evro monetarnu zonu predstavlja ulazak u klub u kome zemlje članice mogu da koriste određene pogodnosti, a između ostalog to se odnosi i na Nemačku finansijsku moć. Kreditori sada imaju sigurnost da u slučaju da Grčka ne bude bila u mogućnosti da izvršava svoje međunarodne obaveze, da će to za nju uraditi Nemačka i druge ekonomsko jake zemlje Evrope (Alwaris & Hasan, 2023). U novim okolnostima i sa jeftinijim izvorima zaduživanja, Grčka i druge zemlje su prilagodile svoje fiskalne politike na način kojim im je omogućio da povećaju potrošnju u razmerama koje do tada nisu mogle zamisliti. Sada imaju mogućnost da

finansiraju nove državne programe iz budžetskog deficit (Jovićević, 2021). Otvarana su radna mesta koja nisu imala ekonomsko utemeljenje, više sredstava je odvajano za funkcionisanje penzionih fondova.

Svi ovi programi su finansirani iz novca koji je bio lako dostupan putem zaduživanja pod niskim kamatnim stopama. Grčka, Italija i Portugal su na ovaj način akumulirale velike budžetske deficite ali su uspevale da drže deficit pod kontrolom isplatom novim novcem koji je pristizao novim zaduživanjem na globalnom finansijskom tržištu (Milenković et al., 2023). U ovakvom slučaju, pozajmljivanje i otplaćivanje dugova se nastavilo sve dok je postojalo nesmetano zaduživanje i sprovođenje neusklađene fiskalne politike. Irska i Španija su iskoristile ovakvo zaduživanje za ubacivanje novca u sektor gradnje što je dovelo do eksplozije u gradnju stambenih objekata. Isti način gradnje je funkcionisao u Sjedinjenim Američkim Državama. Kreditne linije u Evropi su neometano funkcionisale, javni dugovi zemalja članica Evropske unije su nastavili da rastu ali ovim je Evropa postala još tesnije povezane. Kompanije su počele da otvaraju proizvodnju širom Evrope (Ristić et al., 2024). Nemačke banke su pozajmljivale novac Francuskim kompanijama i Francuske banke su pozajmljivale novac Španskim kompanijama (Neševski & Bojičić, 2024). Ovo je dovelo da unapređenja poslovne klime u Evropi jer su se troškovi poslovanja umnogome smanjili, brzina u poslovanju je poditgnuta na jedan viši nivo. Ovakav način poslovanja je bio moguć sve dok su kreditne linije nesmetano funkcionisale i dok je zaduživanje bilo jeftinije nego ranije (Savić & Bonić, 2022). U 2008. godini, tržište nekretnina u Sjedinjenim Američkim Državama je doživelo krah što je imalo uticaj na celokupan globalni finansijski sistem. Kreditiranje je ovim krahom zaustavljeno na svim tržištima i Grčka ekonomija sada nije mogla da funkcionise.

Tabela 1. Grčki javni dug, kretanje BDP-a i odnos javnog duga naspram BDP-a

	2001.	2004.	2009.	2010.	2011.	2012.	2013.	2014.	2015. ²¹	2016.
Javni dug u mlrd. € ²²	152,1	183,5	301,0	330,3	356	304,7	319,2	317,1	320,4	319,6
Nominalni BDP	152	193,0	237,4	226,2	207,8	194,2	182,4	179,1	177,8	184,3
Javni dug u % BDP-a ²³	100,1	95,1	126,8	146,0	171,4	156,9	175,0	177,1	180,2	173,4

Izvor: <http://ec.europa.eu/eurostat>

Kreditne linije su prestale da funkcionišu, nisu mogli da se isplaćuju uvećane plate i penzije koje su se utemeljile sa početkom jeftinijeg zaduživanja. Takođe, Grčka nije mogla da pozajmljuje novac kako bi isplatila stare dugove. Zbog

²¹ Evropska komisija, *Evropska ekonomija predviđanja – proleće 2015.*, Evropska komisija, 2015

²² Vidi: AMECO baza podataka: Konsolidovani javni dug države (milijarde €, ESA 2010), Automatsko ažuriranje 3 puta godišnje februar, maj i novembar, Evropska komisija. 7. novembar 2012. godine

²³ Vidi: Government debt-to-GDP ratio, Eurostat. Pristupljeno: 22 October 2012

načina na koji funkcionise Evro monetarna zona, ovaj problem se prelio na funkcionisanje cele Evrope (Milanović & Gojkov, 2024). Većina zemalja je navikla da pozajmljuje novac ali u novoj situaciji, one nisu bile u stanju da otplaćuju dugove. Kako ne bi došlo do kraha zajedničke monetarne unije, Nemačka je preduzela određene korake u obuzdavanju i saniraju novo nastale situacije.

Mere evropske unije za smanjenje javnog duga

Nemačka je najsnažnija ekonomija Evrope i sa ovakvim statusom pristala je da pomogne zemljama koje su se našle u krizi. To je značilo da će Nemačka pomoći u otplati dugovanja ali za uzvrat, Grčka, Italija, Portugal i Irska su morale da preduzmu mere štednje i smanje troškove države. Mere za smanjenje javnog duga su se odnosile na redukovanje državne potrošnje, manje zaduživanja i vraćanje više dugova (Goulart & Mello, 2024). Iako ovo zvuči kako lako rešenje, u praksi se pokazalo da nije. U maju 2010. godine, Evropska komisija²⁴ je odobrila plan "Greek Loan Facility" – GLF". Grčka je ovim merama preduzele prve korake ka obuzdavanju javnog duga koje su se ogledale u davanju kredita od strane Evro zone i MMF-a u visini od 110 milijardi evra sa kamatnom stopom od 5,5% (The Observer at Boston College, 2011). Evro zona je odobrila 80 milijardi evra pomoći, dok je MMF izdvojio 30 milijardi evra. Već naredne godine, javile su se potrebe za novim merama jer postojeće nisu dale dovoljne rezultate (Paspalj et al., 2024).

Grčkoj je odobreno da se produži period otplate prvobitnog kredita na 15 godina sa umanjenom kamatom od 3,5%. U oktobru iste godine, dogovoreno od strane Evro zone i MMF-a je da se otpiše 50% javnog duga Grčke (Petraakis & Weeks, 2011).

Tabela 2. Odnos javnog duga naspram BDP-a u Nemačkoj

	2009.	2010.	2011.	2012.	2013.	2014.	2015.
Javni dug u mlrd. €	1.785,5	2.088,7	2.182,1	2.204,5	2.189,1	2.188,7	2.157,8
Nominalni BDP[8]	3.418,01	3.417,3	3.757,46	3.539,62	3.745,32	3.868,29	3.355,77
Javni dug u % BDP-a	65,1	81,0	78,7	79,9	77,5	74,9	71,2

Izvor: <http://ec.europa.eu/eurostat>

Mere za smanjivanje javnog duga nisu popularna mera za obuzdavanje loših kretanja u ekonomiji. Država je po pravilu najveći potrošač i u slučaju kada se od nje zahteva da smanji potrošnju, ovu meru odmah osete građani koji su zaposleni u javnom sektoru. Nezadovoljstvo građana raste, jer dolazi do optuživanja radnika,

²⁴ Vidi: http://ec.europa.eu/economy_finance/assistance_eu_ms/greek_loan_facility/index_en.htm

smanjenja plata i penzija (Miljković, 2022). Mere za smanjenje javnog duga ne dovode automatski do uravnoteženja budžeta iz razloga što država prikuplja porez na osnovu prihoda koji ostvare građani. U slučaju kada građani manje zarađuju, država će sakupiti manje poreza (Vladisavljević et al., 2023). Ovakva mera dovodi do smanjenja prihoda budžeta što opet ima za posledicu da budžet nije u mogućnosti da izvršava plaćanje ka međunarodnim kreditorima.

Kulturne razlike unutar Evropske unije

Sagledavajući mere za smanjenje javnog duga, trebalo bi analizirati i uticaj kulturnih razlika koje odlikavaju Evropu. Nemačka je vrlo finansijski disciplinovana zemlja. Prihode i rashode koje ostvaruje drži izbalansirano tako da ne ugrožava ekonomsku moć zemlje. Od kada je iskusila ogromnu inflaciju posle I svetskog rata, Nemačka se okrenula ka obuzdavanju inflacije i uvek je obazriva u pogledu trošenja budžetskih sredstava (Gojković et al., 2023). Radnici u Nemačkoj su vredni, idu kasnije u penziju i redovno plaćaju državi svoje obaveze.

U Grčkoj je drugačija situacija. Ranije se ide u penziju i postoji velika nedisciplinovanost u plaćanju poreza. Grčka nikada nije sakupila dovoljno poreza od svojih građana. Prema procenama Organizacije za ekonomsku saradnju i razvoj samo u 2009. godini, izbegavanje plaćanja poreza je bilo na nivou od 65 milijardi evra ili 25% BDP-a²⁵. Ovakva situacija je oduvek bila samo što se posle prihvatanja eura ona drastično uvećala (Radovanović et al., 2024).

Nemačka je imala svoj pogled na rešavanje ovakve situacije. Bilo je potrebno da se prihvate stroge mere štednje kako bi Nemačka pozajmila svoj novac. Ekonomije zemalja koje su bile pod krizom su relativno malo kada se sagleda ukupna ekonomska moć Evrope, ali kako je Evro monetarna zona povezana, njihove slabosti su mogle da ugoreze celu Evropu. Problem u jednoj zemlji mogao je da izazove lančane probleme celoj Evropi.

Potreba za stvaranjem fiskalne unije

Mere za smanjivanje javnog duga zemalja koje su se našle u krizi poput Grčke, Portugala, Španije i Italije mogu dati pozitivne rezultate. Državna potrošnja se može svesti na razumne okvire kao i zaduživanje na međunarodnom finansijskom tržištu. Ali sve ove mere ne znače da se ovakva kriza neće ponoviti u budućnosti. Nemačka može pomoći zemljama u krizi da prevaziđu krizu javnog duga i time da spreči urušavanje finansijskog sistema Evrope, ali nepostoji sistemski uređen način kako bi se ovakve situacije u budućnosti ne bi ponovo dogodile. Grčka i ostale zemlje mogu u budućnosti ponovo da krenu putem prekomernog zaduživanja i povećanje državne potrošnje (De Faria, 2024). Da bi projekat zajedničke valute uspeo, mora se u budućnosti stvoriti fiskalna unija koja bi mogla da isprati funkcionisanje monetarne unije. Mora postojati politička volja za

²⁵ Vidi: https://en.wikipedia.org/wiki/Tax_evasion_and_corruption_in_Greece

stvaranje institucije koja će imati pravo da uredi fiskalnu politiku zemalja članica Evropske unije. Ova institucija bi imala moć da redukuje prekomerno zaduživanje, definiše poreske stope i da primenjuje sankcije u slučaju da se ne poštuju propisi. Fiskalna unija bi sprečila nekontrolisano državno zaduživanje i potrošnju bez utemeljenog pokrića ali ovo je veoma kompleksan i nepopularan posao (Evropska komisija, 2015). To znači da bi države trebalo da predaju finansijski suverenitet višoj instituciji što bi na kraju dovelo do stvaranje Sjedinjenih Evropskih Država.

Evropska unija kao zajednički projekat ima svetlu budućnost ali su potrebne organizacione promene kako bi nesmetano funkcionisala. Stvaranje zajedničke valute je doprinelo lakšem poslovanju ali neusklađenost fiskalne politike sa centralizovanom monetarnom politikom, doprinelo je stvaranju finansijske krize među članicama Evropske unije. Zajednička fiskalna politika, doprineće boljem vođenju zajedničke ekonomske politike i ovim merama smanjiće se opasnost od ponovne krize javnog duga. Bez centralizovane fiskalne unije, zemlje će nastaviti da povećavaju budžetske deficite, da stvaraju veći javni dug.

Zaključak

Evropa je tokom svoje burne istorije preživljavala puno razaranja, uništavanja država, carstava. Ovakve situacije nepovoljno su delovale na razvijanje ekonomije unutar same Evrope jer nije u ovakvim uslovima bilo želje za razvijanje ekonomije, uklaljanje trgovinskih barijera. Stvaranjem Evropske unije ovakav problem je rešen. Ljudi su sada počeli međusobno da trguju, razvijaju poslovne odnose, smanjuju troškove proizvodnje.

Nije bilo moguće odmah ukloniti sve barijere koje su delile Evropu već su one tokom nekoliko decenija smanjivane. Stvaranje zajedničke valute predstavljao je civilizacijski iskorak u afirmisanju zajedničke ekonomske politike Evropske unije.

Monetarna politika je postala centralizovana i članice Evropske unije su prihvatile zajedničku valutu, evro. Zajednička valuta je dodatno olakšala poslovanje, investiranje, zaduživanje i plaćanje. Različiti stepeni razvoja članica Evropske unije doveli su sada do lakšeg zaduživanja država na globalnom tržištu. Kamatne stope počelu su da padaju, kapital se sada lakše pribavljao i sve ovo je dovelo do rasta BDP-a ali i javnog duga zemalja članica.

Grčka, kao najekstremniji primeri krize javnog duga pokazao je šta se dešava kada država se sve više zadužuje bez realnih osnova za njegovo vraćanje. Ovom spisku treba dodati i Španiju, Italiju, Irsku, Portugal. Svaka od navedenih zemalja je imala različit način funkcionisanja ekonomije ali zajedničko je bilo nemogućnost vraćanja dugova.

Evropska unija tj. Evropska komisija na njenom čelu se u zadatoj situaciji ponašala odgovorno i preduzela je odgovarajuće mere kako bi pomogla ugroženim članicama. Odobravanje kredita, smanjenje javnog duga, poboljšanje u

naplati poreza, smanjenje korupcije su mere koju su bile nepopularne ali su morale da se sprovedu.

Neusklađenost centralizovane monetarne politike i pojedinačnih fiskalnih politika zemalja članica je veliki izazov za funkcionisanje Evropske unije. Evropska centralna banka sama vodi monetarnu politiku, dok svaka članica sama vodi svoju fiskalnu politiku. Potrebno je uskladiti monetarnu i fiskalnu politiku na nivou Evropske unije, jer će se na ovaj način pravovremeno delovati kako ne bi se ponovo dogodila finansijska kriza. Stvaranje fiskalne unije je moguć odgovor na ovaj izazov jer bi se zemlje članice odgovornije ponašale prema svom zaduživanju, visini javnog duga.

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THE ROLE OF MONETARY POLICY IN ENSURING MACROECONOMIC STABILITY

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Abstract

The causes of the crisis of the common currency of the European Union can be seen as the collapse of Europe itself through the use of a common currency that unites 18 countries into a consistent and regulated system. Greece, Portugal, Spain, Italy and Ireland were on the verge of financial bankruptcy, which could have caused the collapse of the entire financial system of Europe and other global markets. The European Union has shown that it has the strength to cope with the financial crisis that has shaken it. The necessity of harmonizing monetary policy at the level of the European Union and fiscal policy at the level of each of its members has proven to be a necessary measure so that the common currency can continue to function. The paper deals with the issue of the public debt crisis of the European Union member states, the mismatch between monetary and fiscal policies.

Keywords: *management, European Union, public debt, monetary policy, fiscal policy*

JEL: *E5, E6, F4*

Introduction

Europe has been constantly at war throughout its turbulent history. These wars were fought in all parts of the continent and resulted in the loss of a large number of people, the destruction of cities, the collapse of empires and states. The countries that waged wars had no interest in trading with each other, developing their economies. Europe was a place where trade barriers, tariffs and different currencies greatly hindered the development of states. It was necessary to pay a fee in order to exchange your own currency for the currency of the country in

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which you wanted to make a payment or purchase. After this, it was necessary to pay a new fee in order to be able to make a payment between two states. This organized system only hindered development and led to the stagnation of economies.

World War II brought unprecedented measures of destruction, devastation of everything that existed in Europe. Industrial complexes, infrastructure and economic activity at the continental level were destroyed. Due to the resulting bad situation, the fastest way for Europe to recover was to remove all barriers (Obrić & Majstorović, 2023). Easier exchange of goods and capital was introduced, which resulted in the acceleration of trade between European countries and the creation of the idea of a unified Europe that would be free from wars, destruction, and through mutual association, Europe would become a place where trade and economic development would take place in peace. All countries would unite in a single union, which would aim to prevent all future wars from being fought.

Countries slowly began to strive for this idea. First, trade and customs barriers were abolished, which led to a decrease in business costs. The final stage of removing all barriers was the fall of the Berlin Wall. With a unified Germany, Europe was ready to unify the continent (Septiani et al., 2024).

Twelve countries signed the Maastricht Treaty on February 7, 1992, which aimed to create the European Union. The Treaty on the Creation of the European Union was signed in Maastricht, the Netherlands. It entered into force in 1993. After this, economic processes in Europe took place much more easily and freely. The biggest problem that remained was also the main one, which was the different currencies used by European countries. After comprehensive analysis and preparations, a solution was found for this problem, which was the creation of a common currency. On January 1, 1999, the countries of the Eurozone adopted the euro as their common currency and the space in which the Eurozone began to function was created (Savić et al., 2025). This created a discontinuity in relation to the use of the countries' domestic currency and the management of individual monetary policies. The management of monetary policy was handed over to a new institution to which national and sovereign rights of the state were delegated and the European Central Bank was created. Since then, the Eurozone has had a single monetary policy led by the European Central Bank, but it was left to the member states of the European Union to manage their own fiscal policy. This structure of monetary and fiscal policy at the level of the European Union and the Eurozone is the key reason for the creation of a public debt crisis among its members.

Monetary policy versus fiscal policy

It is necessary to understand the impact of monitoring monetary policy against the impact of fiscal policy management. Monetary policy is based on its basis controls the amount of money located in circulation and how much interest rates

are on borrowing that money (Klincov et al., 2022). Fiscal policy on the other hand, manages how much money is collecting through taxes and other names as well as how much money is consuming. The government of certain countries can spend as many money as collecting through taxes and other fiscal and non-fiscal revenues (Habibi & Zakiah, 2023). Each spending through this border is called deficient consumption and the Government must provide money sources for such funding.

Before introducing euros, countries such as Greece, they had to pay high interest rates when borrowing. Also, the creditors were careful and did not allow Greece to indebted excessively (Petrović et al., 2024). After Greece joined the Eurozone, this situation changed. Greece was allowed to borrow at lower interest rates and raise much more money and capital than before.

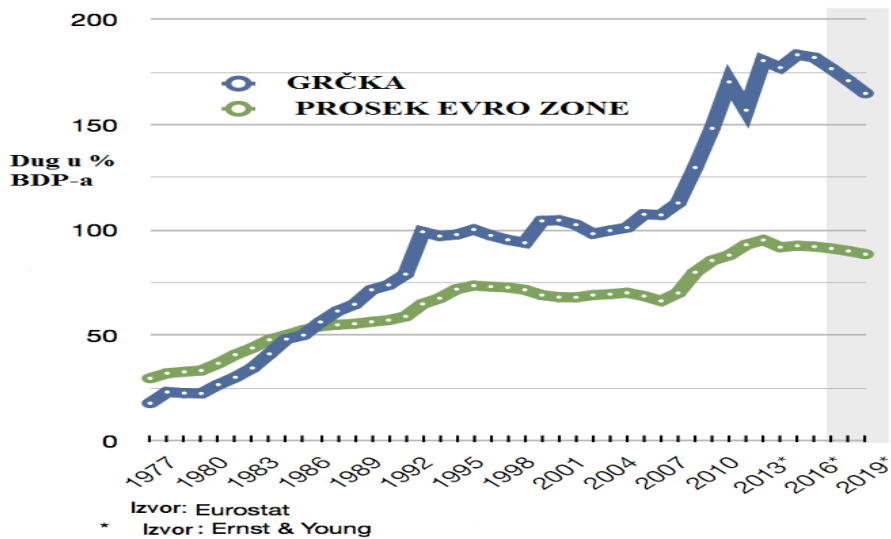


Figure 1. Public debt ratio of Greece and the Eurozone from 1977 to 2019

Source: https://commons.wikimedia.org/wiki/File:Greek_debt_and_EU_average_since_1977.png

Smaller countries now have access to credit lines, which was not the case before. Before joining the Eurozone, Greece paid around 18% on borrowing, while after joining, this situation changed. Now it could borrow at interest rates like Germany, which is around 3%. The reason lies in Germany's global financial power (Golubović & Janković, 2023). Joining the Eurozone represents joining a club in which member countries can enjoy certain benefits, and this also applies to Germany's financial power, among other things. Creditors now have the certainty that in the event that Greece is unable to fulfill its international obligations, Germany and other economically strong European countries will do it for it (Alwaris & Hasan, 2023). In the new circumstances and with cheaper sources of borrowing, Greece and other countries have adjusted their fiscal policies in a way that has allowed them to increase spending on a scale they could not have

imagined before. They now have the ability to finance new state programs from the budget deficit (Jovićević, 2021). Jobs that had no economic justification were created, more funds were allocated for the functioning of pension funds.

All of these programs were financed from money that was easily available through borrowing at low interest rates. Greece, Italy and Portugal accumulated large budget deficits in this way, but managed to keep the deficit under control by paying with new money that came from new borrowing on the global financial market (Milenković et al., 2023). In this case, borrowing and debt repayment continued as long as there was unhindered borrowing and the implementation of uncoordinated fiscal policies. Ireland and Spain used this borrowing to inject money into the construction sector, which led to an explosion in housing construction. The same way of building worked in the United States. Credit lines in Europe functioned smoothly, public debts of EU member states continued to grow, but this made Europe even more closely connected. Companies began to open production across Europe (Ristic et al., 2024). German banks lent money to French companies and French banks lent money to Spanish companies (Neševski & Bojičić, 2024). This led to improvements in the business climate in Europe because business costs were greatly reduced, and the speed of business was raised to a higher level. This way of doing business was possible as long as credit lines functioned smoothly and borrowing was cheaper than before (Savić & Bonić, 2022). In 2008, the real estate market in the United States experienced a crash, which had an impact on the entire global financial system. This crash stopped lending in all markets and the Greek economy could no longer function.

Table 1. Greek public debt, GDP trends and public debt-to-GDP ratio

	2001.	2004.	2009.	2010.	2011.	2012.	2013.	2014.	2015. ³⁰	2016.
Public debt in billion € ³¹	152,1	183,5	301,0	330,3	356	304,7	319,2	317,1	320,4	319,6
Nominal GDP	152	193,0	237,4	226,2	207,8	194,2	182,4	179,1	177,8	184,3
Public debt in % of GDP ³²	100,1	95,1	126,8	146,0	171,4	156,9	175,0	177,1	180,2	173,4

Source: <http://ec.europa.eu/eurostat>

Credit lines stopped working, increased salaries and pensions that were established with the beginning of cheaper borrowing could not be paid. Also, Greece could not borrow money to pay off old debts. Due to the way the Euro

³⁰ European Commission, European Economic Forecast – Spring 2015, European Commission, 2015

³¹ See: AMECO database: Consolidated general government debt (€ billion, ESA 2010), Automatic update 3 times a year February, May and November, European Commission. 7 November 2012

³² See: Government debt-to-GDP ratio, Eurostat, 22 October 2012. Retrieved 22 October 2012

Monetary Zone functions, this problem spilled over into the functioning of the whole of Europe (Milanović & Gojkov, 2024). Most countries were used to borrowing money, but in the new situation, they were not able to repay their debts. In order to prevent the collapse of the common monetary union, Germany took certain steps to contain and remediate the newly created situation.

European Union measures to reduce public debt

Germany is the strongest economy in Europe and with this status it agreed to help countries that were in crisis. This meant that Germany would help repay their debts but in return, Greece, Italy, Portugal and Ireland had to take austerity measures and reduce government spending. Measures to reduce public debt were related to reducing government spending, borrowing less and repaying more debt (Goulart & Mello, 2024). Although this sounds like an easy solution, in practice it turned out not to be the case. In May 2010, the European Commission approved the “Greek Loan Facility” – GLF plan. With these measures, Greece took the first steps towards containing its public debt, which were reflected in the provision of loans by the Eurozone and the IMF in the amount of 110 billion euros with an interest rate of 5.5% (The Observer at Boston College, 2011). The Eurozone approved 80 billion euros in aid, while the IMF allocated 30 billion euros. The following year, the need for new measures arose because the existing ones did not provide sufficient results (Paspalj et al., 2024).

Greece was granted an extension of the repayment period of the original loan to 15 years with a reduced interest rate of 3.5%. In October of the same year, it was agreed by the Eurozone and the IMF to write off 50% of Greece’s public debt (Petrakis & Weeks, 2011).

Table 2. Public debt ratio vs. GDP in Germany

	2009.	2010.	2011.	2012.	2013.	2014.	2015.
Public debt in billion €	1.785,5	2.088,7	2.182,1	2.204,5	2.189,1	2.188,7	2.157,8
Nominal GDP	3.418,01	3.417,3	3.757,46	3.539,62	3.745,32	3.868,29	3.355,77
Public debt in % of GDP	65,1	81,0	78,7	79,9	77,5	74,9	71,2

Source: <http://ec.europa.eu/eurostat>

Measures to reduce public debt are not a popular measure to curb negative trends in the economy. The state is usually the largest consumer and when it is required to reduce spending, this measure is immediately felt by citizens employed in the public sector. Citizens' dissatisfaction is growing, as workers are laid off, salaries and pensions are reduced (Miljković, 2022). Measures to reduce public debt do not automatically lead to a balanced budget because the state collects taxes based on the income generated by citizens. In the case when citizens earn less, the state

will collect less taxes (Vladislavljević et al., 2023). Such a measure leads to a decrease in budget revenues, which in turn results in the budget being unable to make payments to international creditors.

Cultural differences within the European Union

When considering measures to reduce public debt, the impact of cultural differences that reflect Europe should also be analyzed. Germany is a very financially disciplined country. It keeps its income and expenses balanced so that they do not threaten the country's economic power. Since experiencing huge inflation after World War I, Germany has turned to curbing inflation and is always cautious in spending budget funds (Gojković et al., 2023). Workers in Germany are hardworking, retire later and regularly pay their obligations to the state.

The situation is different in Greece. People retire earlier and there is great indiscipline in paying taxes. Greece has never collected enough taxes from its citizens. According to estimates by the Organization for Economic Cooperation and Development in 2009 alone, tax evasion was at the level of 65 billion euros or 25% of GDP. This situation has always been there, but after the adoption of the euro it has increased drastically (Radovanović et al., 2024).

Germany had its own view on how to solve this situation. It was necessary to adopt strict austerity measures so that Germany could borrow its money. The economies of the countries that were in crisis are relatively small when considering the total economic power of Europe, but since the Eurozone is interconnected, their weaknesses could endanger the whole of Europe. A problem in one country could cause chain problems throughout Europe.

The need for creating a fiscal union

Measures to reduce the public debt of countries in crisis, such as Greece, Portugal, Spain and Italy, can yield positive results. Government spending can be reduced to reasonable limits, as can borrowing on the international financial market. But all these measures do not mean that such a crisis will not occur again in the future. Germany can help countries in crisis to overcome the public debt crisis and thus prevent the collapse of the European financial system, but there is no systematic way to prevent such situations from happening again in the future. Greece and other countries may again embark on the path of excessive borrowing and increased government spending in the future (De Faria, 2024). For the common currency project to succeed, a fiscal union must be created in the future that could monitor the functioning of the monetary union. There must be political will to create an institution that will have the right to regulate the fiscal policy of the European Union member states. This institution would have the power to reduce excessive borrowing, define tax rates and apply sanctions in case the regulations are not followed. Fiscal union would prevent uncontrolled government borrowing and spending without a solid foundation, but this is a very complex and unpopular

task (European Commission, 2015). This means that countries would have to hand over financial sovereignty to a higher institution, which would eventually lead to the creation of a United States of Europe.

The European Union as a common project has a bright future, but organizational changes are needed to make it function smoothly. The creation of a common currency has contributed to easier business, but the incompatibility of fiscal policy with centralized monetary policy has contributed to the creation of a financial crisis among the members of the European Union. A common fiscal policy will contribute to better management of common economic policy, and these measures will reduce the risk of a new public debt crisis. Without a centralized fiscal union, countries will continue to increase budget deficits, creating more public debt.

Conclusion

During its turbulent history, Europe has experienced a lot of destruction, the destruction of states and empires. Such situations had an unfavorable effect on the development of the economy within Europe itself, because in such conditions there was no desire to develop the economy, remove trade barriers. With the creation of the European Union, this problem was solved. People now began to trade with each other, develop business relations, reduce production costs.

It was not possible to immediately remove all the barriers that divided Europe, but they were reduced over several decades. The creation of a common currency represented a civilizational step forward in affirming the common economic policy of the European Union.

Monetary policy became centralized and the members of the European Union accepted the common currency, the euro. The common currency further facilitated business, investment, borrowing and payments. The different levels of development of the members of the European Union have now led to easier borrowing by countries on the global market. Interest rates began to fall, capital was now more easily obtained, and all this led to an increase in GDP and public debt of member states.

Greece, as the most extreme example of a public debt crisis, showed what happens when a state takes on more and more debt without a realistic basis for repaying it. Spain, Italy, Ireland, and Portugal should also be added to this list. Each of the above countries had a different way of operating its economy, but what they had in common was the inability to repay debts.

The European Union, i.e. the European Commission at its head, acted responsibly in the given situation and took appropriate measures to help vulnerable members. Granting loans, reducing public debt, improving tax collection, and reducing corruption are measures that were unpopular but had to be implemented.

The mismatch between centralized monetary policy and individual fiscal policies of member states is a major challenge for the functioning of the European Union. The European Central Bank conducts monetary policy alone, while each member state conducts its own fiscal policy. It is necessary to harmonize monetary and fiscal policies at the European Union level, because in this way timely action will be taken to prevent a financial crisis from happening again. The creation of a fiscal union is a possible answer to this challenge because member states would behave more responsibly towards their borrowing, the level of public debt.

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BALANCEING OF REAL ESTATE IN THE BUDGET

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Abstract

This paper explores how real estate is accounted for in the public sector, focusing on the application of IPSAS 16 and IPSAS 17, which govern the recognition, valuation, and reporting of publicly owned property. By examining examples of initial recognition, later valuation, and removal from records of both investment property and fixed assets, the paper demonstrates how proper use of international accounting standards enhances transparency and efficiency in managing public assets. It also emphasizes the importance of maintaining detailed records on the condition, value, and changes in real estate, which supports accurate financial reporting and strengthens accountability in public resource management.

Key wards: *real estate, public ownership, accounting recognition, valuation, public sector*

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Introduction

IAS 16 is one of the four key standards related to real estate. If a property is acquired for resale or is intended for immediate sale, then IAS 12 applies. When property is used as a fixed asset in the regular operations of a public revenue recipient, IAS 17 is relevant. However, if the property (land or buildings) is acquired or constructed to generate rental income or benefit from value increases, IAS 16 is applied.

A single property, such as a building, can fall under both IAS 16 and IAS 17 if part of it is used operationally and part is leased out.

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Property, plant, and equipment (fixed assets) are significant items on the balance sheet and greatly influence the financial position and performance of public sector entities.

This paper outlines the purpose and scope of IAS 16, explains the recognition and initial measurement of investment property and fixed assets, details the cost components, procedures for derecognition, and provides examples of accounting entries and recordkeeping for publicly owned real estate.

Objective and scope of the standard

The purpose of IPSAS 16 is to define how investment property should be accounted for, while IPSAS 17 focuses on the accounting treatment of property, plant, and equipment. IPSAS 17 addresses key aspects such as recognizing these items as assets, determining their undepreciated value, and calculating their carrying amount and depreciation.

IPSAS 16 is applied by public revenue entities that use the accrual basis of accounting when recording investment property. Similarly, IPSAS 17 is applied by those same entities for accounting of property, plant, and equipment.

IPSAS 16 covers the recognition, measurement, and disclosure of investment property, while IPSAS 17 applies to all public revenue users, excluding public enterprises.

These standards do not apply to (Vukša & Milojević, 2024):

Biological assets associated with agricultural activity,

Mineral rights and mineral reserves such as oil, natural gas, and similar non-renewable resources.

Other international public sector accounting standards may have different requirements for recognizing property, plant, and equipment. For instance, IPSAS 13 – Leases, requires entities to determine recognition based on whether the risks and rewards of ownership are transferred through the lease agreement (Zupur & Janjetović, 2023). A public revenue entity applies this Standard to property under construction or development, up until the point it qualifies as investment property under IAS 16 – Investment Property.

IAS 17 does not require public revenue users to recognize heritage assets even if they meet the definition and recognition criteria for property, plant, and equipment. However, if a public revenue user chooses to recognize heritage assets, they must follow the disclosure requirements of the Standard and may apply its measurement methods. Heritage assets are defined because of their cultural, environmental, or historical importance and have specific characteristics such as (Paspalj et al., 2024):

Their cultural, environmental, educational and historical value is unlikely to fully reflect their financial value based on market price alone,

Legal or other obligations may impose prohibitions or certain restrictions on disposal by sale,

These assets are often irreplaceable and their value may increase over time, even if their physical condition deteriorates,

Their useful life is difficult to estimate.

Public revenue beneficiaries may hold a large number of heritage assets acquired over many years through various means such as purchase, donations, bequests, and confiscations (Golubović & Janković, 2023). These assets are intended to generate cash inflows, but there may be legal or social restrictions that limit their use for such purposes.

Recognition

Investment assets may be recognized as assets (Radovanović et al., 2024):

When it is probable that future economic benefits or service potential will flow to the beneficiary of the public revenue,

When the cost of the investment property can be measured reliably.

The public revenue beneficiary does not include the costs of routine maintenance of heritage assets in the carrying amount of the investment property. Instead, these costs are recognized as income or expenses when they occur. Routine maintenance costs typically involve labor and minor parts.

The cost of property, plant and equipment should be recognized as an asset (Dašić et al., 2023):

When it is probable that future economic benefits and service potential will flow to the beneficiary of the public revenue, whether in the form of income or a reduction in expenses,

If the cost or cost of the asset can be measured reliably.

There must be sufficient certainty that the public revenue user will benefit economically from using the asset, which also means taking on the risks related to it (Bučalina, 2024). For example, right after purchasing or acquiring the asset, the user may learn that the product made with that asset is banned by the authorities or that competitors have a technologically superior asset, reducing the sales potential of the product (Indić et al., 2023; Neševski & Bojičić, 2024). In the first case, the asset would not meet recognition criteria and the cost should be recorded as an expense for that period. In the second case, the cost of the fixed asset is included in the acquisition or production costs of the product or in the exchange value of the asset (Zekić & Brajković, 2022).

The public expenditure user assesses all costs of property, plant, and equipment at the time they occur. These include initial acquisition or construction costs, as well as subsequent costs related to upgrading, replacing parts, or maintaining the asset.

Initial measurement of investment property

Investment property is initially measured at cost, which includes all acquisition-related expenses. The value of acquired investment property covers the purchase price and all directly attributable costs, such as legal and attorney fees, property transfer taxes, and other transaction expenses (Petrović & Milaš, 2023).

If the company constructs the investment property itself, IAS 17 is applied until the construction or capital improvements are completed and until the asset is transferred to investment property status.

The cost of investment property does not include (Saul et al., 2020):

- Initial operating expenses for activating the investment property,
- Expenses incurred until the normal level of use of the facility is reached,
- Excess costs incurred during the construction of the investment property.

When investment property is purchased on credit, its cost is recorded at the cash payment price, while interest incurred during the loan repayment is recognized as an expense for that period, meaning interest is not capitalized.

Investment property can also be acquired through non-exchange transactions, such as when the government transfers surplus office space to a local public revenue user without compensation, who then leases it at market rates. Investment property may also be acquired through confiscation.

Example: An investment of 2,000,000 dinars was made in a building, recorded as investment property. An invoice from the contractor for 2,000,000 dinars was received, with VAT of 360,000 dinars calculated. At year-end, the fair value of the investment property was determined to be 1,800,000 dinars. Depreciation of 200,000 dinars reflects the proportionate expense over the lease term.

Table 1. Example of accounting in accordance with IPSAS 16

Ord. No.	Account		Description	Amount	
	Debt	Claim		Debt	Claim
1	011125-4		Other commercial buildings (investment properties)	2.000.000,00	

		311111-1	Buildings and structures (investment properties)		2.000.000,00
2	511321-1		Capital maintenance of commercial buildings and business premises	2.000.00,00	
	123961		Value added tax on received invoices at the general rate	360.000,00	
		252111	Suppliers in the country		2.360.000,00
3	252111		Suppliers in the country	2.360.000,00	
		121111	Giro accounts		2.360.000,00
4	311111-1		Buildings and structures	200.000,00	
		011129-1	Correction of the value of commercial buildings		200.000,00

Source: (Stoiljković et al., 2012).

Initial measurement of property, plant and equipment

A single item of property, plant, and equipment that meets the criteria for recognition as an asset should initially be measured at cost. If the asset is acquired in a non-exchange transaction, its cost is determined based on its fair value at the acquisition date (Zhang, 2023). For example, this can occur in cases such as foreclosure. The cost of the asset is its fair value at the acquisition date.

Infrastructure assets

These assets include property, plant and equipment and their accounting is carried out in accordance with IAS 17. These assets have some of their own characteristics (Ang et al., 2023):

- They form part of a system or network,
- They are of a special nature and do not have the possibility of alternative use,
- They are immovable,
- There are restrictions on disposal.

These assets include: road networks, sewage systems, water and electricity supply systems and communication networks.

Elements of cost

The cost of property, plant and equipment includes (Ranta et al., 2024):

1. Invoice price, including import duties and non-refundable sales taxes after deducting trade discounts and rebates,
2. Other costs related to bringing the asset to its intended use, including:
 - Costs of employee compensation directly related to the acquisition or construction of property, plant and equipment,
 - Costs of preparing the work space,
 - Initial delivery costs and handling costs,
 - Installation costs,
 - Costs of design and engineering supervision,
 - Costs of testing whether the asset is functioning normally, less revenue from the sale of products produced during that testing.
3. The estimated cost of dismantling and removing the asset and restoring the site, as well as liabilities arising from the use of the asset for purposes other than the production of inventories during the period.

The cost of property, plant and equipment does not include (Savić et al., 2024):

1. Costs of opening a new facility,
2. Costs of introducing a new product or service,
3. Costs of operating a business at a new location,
4. Administrative and other expenses.

Operating overhead costs are not included in the cost of an asset unless they can be directly and reliably attributed to acquiring a specific asset. Initial and similar costs incurred before the asset is ready for use are excluded from the cost unless necessary to bring the asset to working condition. Losses incurred from maintaining the asset until it reaches its planned performance are not part of the cost but are recognized as expenses in the period incurred.

Measurement after initial recognition of an asset

Measurement is the process of determining the value at which an asset is carried after its initial recognition and inclusion in the financial statements. Two models can be applied for measurement (McAllister & Nase, 2023):

- The cost model implies that property, plant and equipment, after recognition as an asset, are carried at their cost or cost price, less any accumulated depreciation and impairment losses.
- The revaluation model implies that property, plant and equipment are carried at a revalued model that reflects the fair value at the date of revaluation, less any accrued depreciation and impairment losses.

Example: The gross book value of an electromagnetic resonance asset before revaluation is 10,000 dinars, the value adjustment is 2,500,000 dinars, and the net (carrying) value is 7,500,000 dinars. The revaluation rate is 20%. This increases the gross book value by 2,000,000 dinars, the value adjustment by 500,000 dinars, and the net value by 1,500,000 dinars. The revaluation effect is 1,500,000 dinars (2,000,000 - 500,000).

Table 2. Presentation of the balance in the business books before the revaluation

Ord. No.	Account		Description	Amount	
	Debt	Claim		Debt	Claim
	011251		Medical Equipment	10.000.000,00	
		011259	Medical Equipment Impairment		2.500.000,00
		311112	Equipment		7.500.000,00

Source: Author's calculation

Table 3. Presentation of accounting in accordance with IPSAS 17

Ord. No.	Account		Description	Amount	
	Debt	Claim		Debt	Claim
1.	011251		Medical equipment	2.000.000,00	
		011259	Medical equipment		500.000,00

			impairment		
		311110	Fixed assets (revaluation reserves)		1.500.000,00
2.	011251		Medical equipment	1.500.000,00	
		311110	Fixed assets		1.500.000,00

Source: Author's calculation

Derecognition

When investment property is sold or retired from use and no future economic benefits or service potential are expected, it should be removed from the balance sheet. Investment property can be disposed of by sale or financial lease if there is an option to transfer ownership to the lessee at the end of the lease term (Hemed, 2022). Gains or losses from retirement or disposal are calculated as the difference between net disposal proceeds and the asset's carrying amount and recognized as income or expense (Li et al., 2019).

Items of property, plant, and equipment should be derecognized when disposed of or when no future benefits are expected. If sold, derecognition occurs on the sale date (Savić et al., 2018), which is when the criteria for sale are met.

Income or expenses from derecognition are recognized at the time of derecognition.

Immovable property owned by the public is acquired or disposed of based on market value assessed by tax or competent authorities through public bidding or written offers (Public Property Act).

Keeping records on the condition, value and movement of real estate in public ownership

Authorities and organizations of the Republic of Serbia, autonomous provinces, local self-government units, public enterprises, capital companies, dependent capital companies, institutions, public agencies, and other legal entities founded by the Republic of Serbia, autonomous provinces, and local self-government units as users or holders of the right to use, must keep special records of real estate in public ownership that they use (Regulation on the Records of Real Estate in Public Ownership).

Special records of real estate users, i.e., holders of the right to use, shall be kept for (Katona & Panfilov, 2018):

1. land in public ownership (construction, agricultural, forest and other land);
2. official building, business premises and parts of the building;
3. residential building, apartment, garage and garage space;
4. real estate for representative purposes;
5. real estate for the purposes of diplomatic and consular missions;
6. other construction objects.

Special records on the value, condition and movement of real estate within the meaning of this regulation include (Katona & Panfilov, 2018):

1. purchase value of real estate;
2. adjustment of the value of real estate;
3. current book value according to the last annual inventory at the time of compiling the balance sheet of users, i.e. holders of the right of use, i.e. according to the last inventory (in cases of status change, change of legal form, opening or conclusion of regular liquidation and bankruptcy proceedings, as well as in other cases provided for by law);
4. movement, i.e. changes in the condition and value of real estate, which are the result of the disposal of real estate (granting for use, leasing, transfer of public property rights to another public property holder, including exchange, alienation, mortgage, investment in capital), acquisition, extension, change of purpose, etc.

Special records of real estate in public ownership are kept individually for each real estate on Form NEP-JS - Data on real estate in public ownership and the user, i.e. the holder of the right of use.

Conclusion

Valuation and recording of real estate in the public sector are crucial parts of financial reporting as they directly impact the true picture of assets, liabilities, and business results of public fund users. The analysis of IPSAS 16 and IPSAS 17 shows that proper application of international accounting standards enables not only accurate recording of real estate values but also better decision-making in managing public assets. Accounting examples demonstrate the need for consistent application of all stages in the lifecycle of real estate—from initial recognition, through subsequent valuation, to derecognition.

Special emphasis is placed on the obligation to maintain special records of real estate in public ownership, which forms the basis for efficient management, investment planning, risk assessment, and transparency towards citizens and oversight bodies. Introducing fair value as the dominant measurement model contributes to a more objective presentation of the real economic value of public assets, thereby strengthening confidence in public sector financial statements.

In modern conditions, ensuring an integrated and standardized accounting approach, along with ongoing training and professional support for public fund

users, is essential for improving public management quality and rationalizing budget spending. This lays the foundation for enhancing fiscal responsibility and the long-term sustainability of public finances

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ACTIVITY-BASED COSTING AS A FUNCTION OF INFORMATION SUPPORT FOR MODERN MANAGEMENT

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Abstract

In the modern business environment, traditional cost accounting methods are increasingly being replaced by advanced approaches that enable more precise cost management and enhance business competitiveness. This paper analyzes the application of contemporary cost accounting methods in the Republic of Srpska, including Activity-Based Costing (ABC). This paper explores the role of ABC as an essential element of information support for contemporary management, emphasizing its contribution to cost optimization, performance evaluation, and strategic planning. The research is based on a survey conducted among accountants to examine their perception of the advantages, challenges, and frequency of applying contemporary cost accounting methods. Descriptive and non-parametric statistical analysis was applied to identify the key factors influencing the selection and implementation of modern cost accounting methods. A particular focus is placed on analyzing the relationship between the degree of enterprise digitalization and the adoption of contemporary cost accounting methods, with special emphasis on the knowledge and application of ABC. The findings provide insight into the current level of adoption of these methods in the Republic of Srpska, as well as the barriers preventing their wider implementation. The study's conclusions are expected to be beneficial to accountants, managers, and decision-makers in selecting optimal methods for improving cost management in enterprises.

Keywords: *contemporary cost accounting methods, ABC method, accounting, digitalization, survey*

JEL Classification: *C83, M41, D24, L21*

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Introduction

The greatest challenges of modern business strategies are not related to formulation, but to the implementation of business strategy. Numerous difficulties arising during implementation stem from constant and unpredictable changes in both the external and internal environments of enterprises. A modern enterprise can achieve a competitive advantage based on sources of value creation (a differentiation strategy), sources of cumulative cost reduction compared to competitors (a low-cost strategy), or both simultaneously (a hybrid generic strategy). In all three cases, managers conduct an in-depth analysis of value drivers and cost drivers. To analyze these drivers and search for other ways to create (and enhance) competitive advantage, managers use proven strategic management techniques. One of the most significant techniques is Michael Porter's (1985) value chain analysis. The focus of the value chain analysis is on activities, which, according to this concept, can be: (1) primary activities (those that follow the physical flow of products and services – such as inbound logistics, operations, outbound logistics, marketing, and services), and (2) support activities (those that provide support for primary activities and each other – such as procurement, technology development, human resource management, and infrastructure). The value chain technique has significantly influenced the evolution of existing and the emergence of new cost planning and accounting systems. In this context, Activity-Based Costing (ABC) and Activity-Based Budgeting (ABB) have emerged. Managing value chain costs under modern business conditions represents a key challenge for organizations aiming to maintain competitiveness and achieve sustainable growth. The value chain encompasses all activities necessary to create and deliver products or services to the end user, and effective cost management in each segment of the chain is a vital success factor. A dynamic business environment, characterized by rapid technological advances and the increasing use of artificial intelligence, market globalization, and growing competition, presents numerous challenges for organizations in managing value chain costs. It is crucial for organizations to recognize these challenges and develop strategies that enable them to manage costs effectively, achieve their goals, and maintain a competitive edge. Intense global competition and technological innovations, combined with changing consumer demands, are forcing businesses to adapt their management approaches, transform production systems, and invest in new technologies.

In the first section of this paper, a review of relevant literature was conducted to identify the key challenges of the business environment in managing value chain costs and to provide a brief summary of the fundamental characteristics of the ABC system. To investigate the prevalence of modern approaches to cost

accounting and management in enterprises, a survey was conducted. The respondents consisted exclusively of certified accountants in the Republic of Srpska.

Characteristics of the modern business environment

In the modern business environment, dynamism and unpredictability have become the norm, requiring companies to constantly strive for autonomy, drive improvement, and maintain a healthy financial structure to achieve success. Trends in the business environment demand continuous changes in production processes and management concepts, which also implies adjustments in accounting methods. To keep up with trends, businesses must focus on innovation, entering new markets, and introducing new products. Understanding the new business environment is crucial for the continuous improvement of organizational structure and strategy in order to achieve the set goals (Novićević Čečević, 2016). As a result, organizations are increasingly transitioning from traditional business models to a process-oriented approach, leading to the rise of process-oriented organizations. Process orientation has become a key concept in the business world, focusing on optimizing business processes to achieve greater efficiency and quality (Božić, 2023). By applying Lean principles, such as eliminating unnecessary waste, establishing efficient workflows, and promoting continuous learning and improvement, businesses can achieve greater efficiency, competitiveness, and long-term success. This approach is not limited to production but can also be applied in other sectors, such as services and administration, to achieve similar benefits in improving performance and customer satisfaction (Radosavljević, Bošković & Mihajlović, 2015).

A significant transformation in business structures has been driven by the shift toward process-oriented models, leading to the transition from traditionally vertical organizations to horizontally structured companies. This structure fosters process-oriented management by enhancing information flow, innovation in cost tracking, and performance measurement (Novićević Čečević, 2016). Intense global competition and technological innovations force companies to develop new management approaches and tools, as well as change production systems and invest in new technologies. These dynamics are leading to shorter product life cycles and changes in cost structures, encouraging companies to be more flexible and innovative in addressing the challenges of the modern business environment (Kaličanin & Knežević, 2013).

The emergence of large enterprises with high capital investments, technological innovations, and changing consumer demands are key characteristics of today's business world, resulting in significant changes in the cost structure of businesses.

The increase in overhead costs relative to direct costs arises from the production and distribution of a wide range of products, the expansion of sales channels, and intensive marketing and research and development activities. Additionally, modern production is characterized by a changed structure and nature of certain costs, which often calls into question the traditional division between fixed and variable costs, along with an increase in overhead costs not directly linked to production volume. In contemporary enterprises, direct labor and material costs, which once played a dominant role, now often constitute a small and declining portion of total production costs due to technological innovations and the discovery of cheaper materials. The automation of production contributes to an increase in fixed costs, while rising fuel prices directly affect the procurement costs of technology. The increase in overhead costs is due to the growth of auxiliary activities beyond direct production, leading to issues with accurate cost calculation and allocation to products. These factors have led to a significant increase in overhead costs within the total cost structure, posing challenges for the accurate determination of product costs, as well as for cost calculation and management (Knežević, 2016).

In the contemporary business environment, in addition to changes in cost structure, there is also a shift in the nature of certain costs. While labor costs were traditionally considered variable, in the new environment, due to uncertainty in production levels, these costs take on a fixed nature (Antić, 2003). Consumers have become the focal point in modern business for several reasons. First, in an intensely competitive world, meeting consumer needs and demands is essential to a company's survival and growth. Second, the digital revolution and the development of the internet provide consumers with greater access to information, transparency, and choice, making them more powerful than ever before. Furthermore, social media and online platforms offer companies the opportunity to communicate directly with consumers and receive real-time feedback, which is invaluable for adapting products and services to their needs and desires. Finally, the increasing emphasis on personalization and user experience requires companies to pay close attention to consumers to build loyalty and long-term relationships. As a result, process-oriented organizations have emerged, with a focus on consumers in all aspects of their operations. Moreover, the shift from standardized to flexible products allows companies to more easily adapt to consumer needs. Increased product flexibility emphasizes customer satisfaction over functionality, leading to continuous process improvement to meet current and future consumer needs (Kahrović, 2011).

Modern companies can achieve a competitive advantage by efficiently adding value or reducing overall costs compared to their competitors (a low-cost

strategy), or by focusing on specific market segments. Managers conduct in-depth analysis of value and cost factors to understand the sources of competitive advantage. By using traditional and modern cost calculation techniques, they explore new ways to improve competitiveness and enhance efficiency, which is crucial for companies in transition (Jablan Stefanović, Knežević & Jugović, 2021). The advantages of a process-oriented organization compared to a traditional structure include a clear view of operations and inter-functional relationships, a focus on customer needs with a simple analysis of their requirements, easier identification of problems such as inefficiencies or bottlenecks, defined responsibilities, improved communication and collaboration between functional units, readiness for change, and process optimization that directly impacts business outcomes (Knežević, Bojović & Vešović, 2008). Organizational structure and production processes in modern companies must continuously adapt to new conditions in the external environment. A process-oriented approach to business emphasizes communication, decentralization, coordination, and teamwork, as opposed to the traditional functional structure. This approach involves reducing hierarchical levels to emphasize collaboration and two-way communication, rather than rigid command structures (Radosavljević, 2016).

The development of information technologies has significantly changed the way we see the world around us. Since the 1990s, the development of information technologies has paved the way for the emergence of a new business concept – the concept of business networks. One of the key aspects of globalization has become the networking of companies, which has been made possible by internet technology and the use of various online applications. For many companies, the advent of the internet has meant a complete transformation of business operations, from procurement and production to sales, distribution, and communication with stakeholders. Artificial intelligence (AI) and rapid technological changes significantly affect cost management and cost accounting systems in several ways. First, the use of AI allows for the analysis of large amounts of data in real-time, enabling more accurate tracking and forecasting of costs. Additionally, the automation of processes using AI can reduce labor costs and increase efficiency. Rapid technological changes are leading to the emergence of new technologies that can optimize production processes and reduce production costs, but at the same time require continuous updates to cost accounting systems to reflect changes in costs and performance. New technologies bring greater flexibility to production processes, work organization, and management, resulting in shorter product life cycles and changes in the cost structure. These changes require adaptation, especially regarding new information processing technologies such as

JIT systems and new approaches to business management. This implies new strategies, structures, and tools for coordination and control, representing a new "know-how" technology. Internet technology offers a range of benefits, including a significant reduction in the cost of gathering information and easier access to that information. It also enables quick access to information that facilitates decision-making processes. Furthermore, it accelerates and improves the quality of communication (Knežević, 2016).

With the development of computer systems, accounting information systems have evolved from simple paper books and ledgers to sophisticated databases. However, the application of computer systems often amounts to an efficient replacement for traditional methods, resulting in databases with limited information. The introduction of AI into company computer systems can resolve this issue, enabling systems to perform tasks such as planning and speech recognition, overcoming the limitations of traditional accounting information systems. In the future, the focus will be on analysis rather than just data entry, as although computers can perform analyses, human interpretation remains essential, and human creativity and imagination cannot be replaced by AI programs or robots. It is to be expected that future accounting curricula will include subjects related to programming and using AI for routine accounting functions, which will not only ensure the survival of accounting professionals but also increase their productivity and improve their skills (Mohammad et al., 2020). The integration of AI into ABC systems represents a transformative shift, addressing the limitations of traditional ABC methods in handling complexity and large data volumes. AI-driven ABC systems leverage advanced algorithms, machine learning, and data analytics to enhance cost allocation accuracy, automate routine processes, and provide actionable insights into cost behavior (Chen, 2025).

The scope of accounting information support for ABC systems in modern business conditions

Cost information plays an increasingly important role in management, and costing methods are used to reflect the expenses incurred in the production of goods or services, with ABC standing out for its detailed methodology and precise implementation (Borges et al., 2024).

The ABC approach is based on the idea that activities consume resources and incur costs, while the effects are generated by the activities. First, costs are allocated to activity centers based on their cost drivers. Then, based on the relevant cost drivers, the costs of products or services are determined. In the activities of a company, input resources are transformed into output effects, adding value to the resources to achieve these effects for internal or external users.

A key part of the ABC approach is the proper definition and presentation of activities within the company so that the system functions adequately. This involves identifying activities that consume resources, identifying the cost drivers associated with those activities, allocating overhead costs to those activities, and finally, allocating activities to output effects (Knežević, 2016).

The initial premise is the following: activities consume resources, meaning that activities cause costs, and effects consume activities. In the first step of the ABC approach (activities consume resources or cost elements), costs are assigned to the corresponding activity centers (groups of activities with the same cost drivers) in order to determine the total costs of the activities. In the next step, based on relevant cost drivers, the costs of products, services, or other cost objects are determined. According to the ABC concept, these include: products, services, marketing channels, consumers, processes, activities, etc., depending on the cost accounting objective. In a company's activities, inputs (resources) are transformed into outputs (effects), adding value to the resources to transform them into effects for internal or external consumers. Proper definition and presentation of activities within the company are essential for the adequate functioning of the ABC system. Therefore, the ABC approach includes: the identification of activities that consume resources; the identification of the cost drivers related to these activities; the allocation of overhead costs to activities, and the allocation of activities to effects (Maher, Lanen & Rajan, 2006). When designing an ABC system, it is essential to ensure the correct definition of activities within the company, the number and nature of the data collected at the activity level, and the appropriate grouping of activities into activity centers. The quality of data about activities (costs, output measures, capacity usage, quality, productivity, investments in activities, etc.) determines the objectivity of measuring the company's performance. Proper classification of activities is necessary before the ABC system begins to function. This is due to the specific requirements for monitoring and analyzing different activities. Common types of activities include: a) primary and secondary activities - costs of primary activities are directly or indirectly assigned to cost objects, while costs of secondary (supporting) activities are assigned to primary activities; b) value-added activities for consumers and non-value-added activities for consumers - permanent analysis of activities, based on the data of a well-designed ABC system, gives managers the opportunity to decide on the reduction or elimination of the latter (Maher, Lanen & Rajan, 2006); c) discretionary and necessary activities (Glad & Becker, 1996). The final effect is the cost driver of activities, and cost drivers incurred during activities are factors that cause the costs to arise, i.e., factors or transactions that are significant

determinants of costs. Which cost driver will be relevant depends on the specific conditions of the company's operations.

The ABC method complements the traditional cost tracking system, allowing for more accurate cost allocation in an aggressive market environment. It identifies potential for improving production efficiency in a dynamic business environment and enables more accurate estimates of production costs (Petković & Stojkanović, 2021). The final effect is caused by activities, while cost drivers arising from the performance of activities incur costs. When selecting the relevant cost driver, it is important to consider the specific business conditions of the company and the correlation between activity consumption and activity drivers. The ABC approach allocates resource costs to activities based on their consumption drivers, as well as the costs of each activity to cost objects based on their activity drivers (Knežević, 2016). The ABC cost allocation method enables a more objective cost distribution, which is particularly useful in companies with a high proportion of overhead costs.

ABC is therefore today a widely accepted cost accounting system that provides significant support in business, financial, and strategic decision-making (Stratton et al., 2009). The informational content provided by ABC is not only useful in the strategic planning process but also in the implementation of business strategy. Today, as an indispensable technique for implementing and formulating business strategy, the technique known as the Balanced Scorecard (BSC) appears (Đuričin et al., 2014), or in its original form, Balanced Scorecard (Kaplan & Norton, 2001, 2004). In the Balanced Scorecard, desired achievements or objectives are operationalized through metrics that track their realization, and then precise, quantified, and time-bound tasks and actions are defined to achieve them. ABC and BSC represent two modern and complementary concepts (Kaličanin & Knežević, 2013).

Research objective and methodology used

This paper aims to explore the key challenges organizations face in managing value chain costs in the new business environment and to identify the cost accounting approaches being utilized. The paper will subsequently present research findings on the awareness of accountants in the Republic of Srpska regarding new cost accounting approaches. The focus of this research is on understanding how organizations can effectively manage costs across all segments of the value chain to maintain competitiveness and achieve sustainable growth in a dynamic business environment.

The purpose of the survey was to assess accountants' awareness of new cost accounting approaches and the extent of their application. One of the earliest studies on the adoption of the ABC system was conducted by John Innes and Falconer Mitchell (1995), who sent a survey to various major companies in the United Kingdom to determine the level of adoption of ABC and to examine user perspectives. In 2000, the same authors, along with Sinclair (Innes, Mitchell & Sinclair, 2000), reported that 17.5% of firms in the UK had implemented ABC. Bhimani et al. (2007) later conducted research across seven countries, revealing the following percentages of respondents who utilized ABC across all business units: the UK (55.8%), the USA (54.4%), Germany (50%), Canada (39.1%), Italy (26.3%), France (21.6%), and Japan (6.1%). In 2022, a group of Greek researchers assessed ABC adoption in Greek companies, and explored factors that facilitate and motivate the implementation of this approach. Their findings showed that 10.8% (n=11) of companies used ABC, 8.8% (n=9) had insufficiently considered its future implementation, and 80.4% (n=82) still relied on other cost accounting methods (Kitsantas, Vazakidis & Stefanou, 2022). Additionally, Madwe et al. (2020) highlighted in their research that the primary barriers to ABC implementation include a lack of support from top management, cost structure issues, and other technical factors. The study by Tran and Tran (2022) revealed that indirect cost proportion, competitive pressure concerning price and quality, and product diversification significantly influence a firm's decision to adopt the ABC method. Based on these findings, this study aims to examine the situation in the Republic of Srpska and determine whether modern cost accounting approaches are sufficiently applied.

This research is quantitative in nature and is based on a descriptive survey conducted through an electronic questionnaire. The goal was to examine the degree of application of modern cost accounting methods among accountants in the Republic of Srpska and to identify the key factors that influence their choice. The survey was distributed by e-mail and sent to 148 addresses. The total number of received and valid answers is 81. Considering that, the final research sample consists of 81 respondents, whereby only accountants who have a professional certificate, have at least three years of work experience in the field of accounting and work in companies that have been in business for more than five years are included in the survey. This sample enables a relevant and reliable analysis of the application of modern methods of cost accounting, as it includes only experts with adequate knowledge and practical experience in the field of cost accounting. Although the sample size may seem relatively limited, its specific composition and purposefully chosen criteria make it representative of the researched population. Also, given that the research is not aimed at the entire population of

accountants, but at those with defined professional qualifications and experience, the number of 81 respondents is sufficient for valid conclusions. The Kolmogorov-Smirnov test to check the normality of the data distribution. The validity of the sample was further confirmed using non-parametric statistical methods, which are suitable for data analysis in studies with specific and smaller samples. The Kruskal-Wallis test was used to examine the differences between the groups (Ostertagova, Ostertag & Kováč, 2014). The Spearman correlation was used to analyze the relationship between the degree of digitization of the company and the application of modern cost accounting methods. Spearman's correlation coefficient measures the degree and direction of monotonic association between two variables. The value of the coefficient ranges from -1 or perfect negative correlation to +1 or perfect positive correlation (Ali Abd Al-Hameed, 2022). Data analysis was performed using the statistical software package SPSS. Based on the objectives of this research, the following hypotheses were formulated:

H1: There is a statistically significant difference in the degree of digitalization (equipment of companies with adequate IT support for a modern approach to cost accounting) depending on the size of the company.

H2: There is a statistically significant positive relationship between the high level of digitalization of the company and the adoption of modern cost accounting approaches.

H3: The type of company ownership has a statistically significant influence on the choice of cost accounting method.

Research results and discussion

The descriptive analysis of the sample showed that 58% of respondents were female while 42% were male. In terms of age structure, the largest number of respondents in the sample is between 36 and 45 years old (42%), followed by respondents between 26 and 35 years old (27.2%), and then there is a significant participation of respondents between 46 and 55 years old (22%). Respondents aged 18 to 25 years (3.7%) and 56 years and older had the lowest participation with a total participation of 4.9%. In addition to the gender and age of the respondents, the demographic data also included questions regarding the respondents' years of work experience in accounting and finance. A total of 35.8% of the respondents reported having 6 to 10 years of work experience in accounting, followed by 22.2% with 16 and more years of experience. The results show that the largest percentage of surveyed accountants work in companies that have been in existence for more than 30 years (30.9%). A significant share also

belongs to companies aged between 21 and 30 years (28.4%), while 24.7% of respondents work in firms that have been operating for 11 to 20 years. The smallest percentage of companies (16.0%) falls into the 5 to 10-year category. These findings indicate that most of the analyzed companies have long-standing business experience, which may influence the adoption of modern cost accounting methods. The descriptive analysis of company size indicates that nearly half of the surveyed accountants (45.7%) work in small enterprises. Medium-sized and large companies are equally represented, with 27.2% of respondents working in each category. The analysis of ownership structure reveals that the majority of surveyed accountants (54.3%) work in private enterprises or organizations. Public (state-owned) companies account for 34.6% of the sample, while 11.1% of respondents are employed in foreign multinational corporations.

The results indicate that traditional cost accounting methods are more prevalent among the surveyed accountants. Out of 81 respondents, 50 (61.7%) reported using traditional costing methods, while 31 (38.3%) reported adopting modern costing approaches. This suggests that despite the growing emphasis on advanced cost management techniques, traditional methods remain dominant in practice. Before conducting statistical tests, a normality test was first performed to check the distribution of the data. The Kolmogorov-Smirnov test was used for this analysis to determine whether the data were normally distributed (*Table 1*).

Table 1. Tests of Normality

Variables	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
gender	0.381	81	0.000	0.627	81	0.000
age	0.234	81	0.000	0.849	81	0.000
work_experience	0.215	81	0.000	0.873	81	0.000
age_company	0.189	81	0.000	0.857	81	0.000
company_size	0.291	81	0.000	0.764	81	0.000
ownership_structure	0.298	81	0.000	0.775	81	0.000
costing_approach	0.400	81	0.000	0.616	81	0.000
degree_company_digitization	0.230	81	0.000	0.832	81	0.000

Source: the authors

Since all the data deviated significantly from the normal distribution (because the p-values are less than 0.05), it can be concluded that the data are not normally distributed.

To test the proposed hypotheses, various statistical analyses were conducted. H1 was examined using the Kruskal-Wallis test to determine whether there is a significant difference in the application of modern cost accounting methods based on company size (*Table 2*). H2 was tested through Spearman's correlation

analysis, assessing the relationship between the level of digitalization in a company and the adoption of modern costing approaches (*Table 3*). Finally, H3 was analyzed using the logistic regression to evaluate the impact of ownership structure on the choice of cost accounting method (*Table 4*). These tests provided insights into the factors influencing cost accounting practices among accountants.

Table 2. Hypothesis Test Summary – Kruskal-Wallis test

Null Hypothesis		Test	Sig.	Decision
1	The distribution of the degree of digitization of companies (equipment of companies with adequate IT support for a modern approach to cost accounting) is the same for all categories of enterprise size.	Independent-Samples Kruskal-Wallis Test	0.023	<i>Reject the null hypothesis.</i>
Asymptotic significances are displayed. The significance level is 0.050.				

Source: the authors

Based on the conducted analysis, the research results indicate that the size of the company has a significant impact on the degree of digitization, especially in the context of the application of modern cost accounting methods. The rejection of the null hypothesis indicates that the level of digitization differs between small, medium and large enterprises, which suggests that larger enterprises have better conditions for implementing modern digital tools and technologies. Based on the results of the Kruskal-Wallis test, hypothesis H1 is confirmed.

To test hypothesis H2, which concerns the existence of a statistically significant positive relationship between the high level of digitalization of the company where accountants work and the adoption of modern cost accounting approaches, Spearman's correlation method was applied. This test was used to examine the relationship between the variables degree of digitization of company and cost accounting approach. Since these variables are of an ordinal type, Spearman's correlation was appropriate for the analysis.

Table 3. Spearman’s rho test correlations

		costing_approach	degree_company_digitization
Spearman's rho	costing_approach	Correlation Coefficient	1.000
		Sig. (2-tailed)	.000
	degree_company_digitization	Correlation Coefficient	0.832**
		Sig. (2-tailed)	.000
**. Correlation is significant at the 0.01 level (2-tailed).			

Source: the authors

The results of the Spearman's correlation test confirm that there is a statistically significant positive relationship between the level of digitalization in the company and the adoption of modern cost accounting approaches. Specifically, the

correlation coefficient is 0.832, with a p-value of 0.000, which is well below the 0.01 significance level. This indicates a strong positive correlation, meaning that companies with a higher degree of digitalization tend to adopt modern cost accounting methods more frequently. These results confirm hypothesis H2.

Logistic regression was used to test hypothesis H3. This test was chosen because the dependent variable (costing approach) is binary, with the options “traditional” and “modern”, while the independent variable is ownership type, which is a category. Logistic regression allows for the analysis of the impact of the categories of independent variables on the binary dependent variable.

Table 4. Logistic regression

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	ownership_structure	1,169	,414	7,971	1	,005	3,218
	Constant	-2,597	,804	10,433	1	,001	,075

a. Variable(s) entered on step 1: ownership_structure.

Source: the authors

The regression results show that the type of ownership is a significant predictor of the choice of cost accounting method ($p = 0.005$). The coefficient $B = 1.169$ indicates that private or foreign-owned firms are 3.218 times more likely to use a modern costing approach compared to publicly owned firms. These results confirm that the type of ownership has a statistically significant effect on the application of modern cost accounting methods. This confirms hypothesis H3. Private and foreign companies are more likely to adopt modern cost accounting methods compared to public sector companies due to greater flexibility in decision-making, which allows them to implement new technologies and methodologies more quickly. Private companies, driven by profitability and competitiveness, often use modern methods such as ABC to optimize costs and improve operational efficiency, while the public sector faces less pressure for profit and market competition, making the adoption of modern approaches more challenging. Additionally, private and foreign companies have greater resources to invest in technology and training, while the public sector may be constrained by budgets and regulatory frameworks that hinder innovation. The culture of innovation in private companies, along with lower political and regulatory pressures, further facilitates the adoption of modern accounting methods.

In order to investigate which approaches are the most well-known and applicable, an analysis of the survey responses was conducted. The analysis included (Table 5.):

1. traditional cost accounting approaches (actual cost accounting system, standard cost accounting system, variable cost accounting system)
2. modern accounting approaches (cost accounting by activity - ABC, JIT and Backflush, calculation and management of total quality costs - TQM, based on target costs - TCM, life cycle costs - LCCM, through the value chain - VCA, Lean production and value stream accounting - VSA).

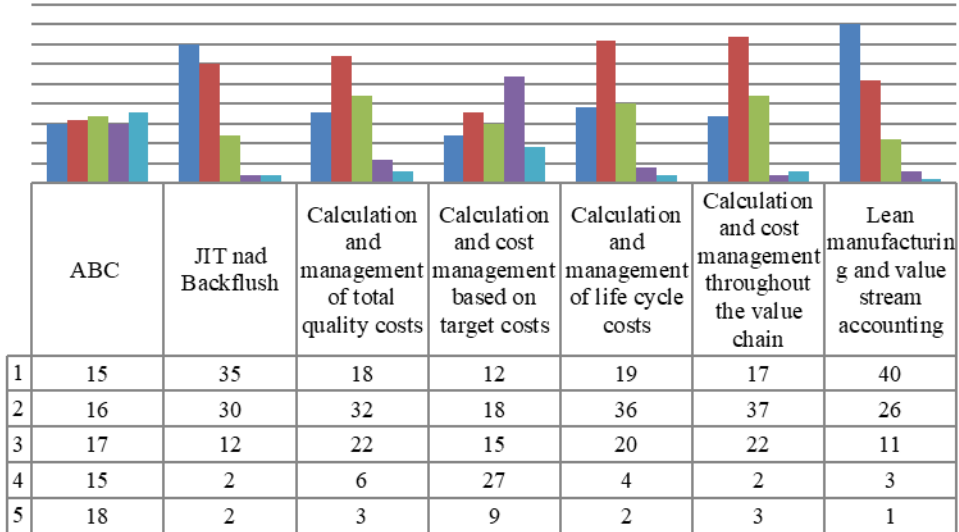
Table 5. Frequency – cost accounting approaches: traditional vs modern

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	traditional	50	61,7	61,7	61,7
	modern	31	38,3	38,3	100,0
	Total	81	100,0	100,0	

Source: the authors

Out of the 81 valid responses, 50 accountants (61.7%) use a traditional costing approach, while 31 accountants (38.3%) use a modern costing approach. This indicates that a larger portion still relies on traditional costing approaches.

Graph 1. Assessment of respondents' familiarity with modern cost accounting and management methods



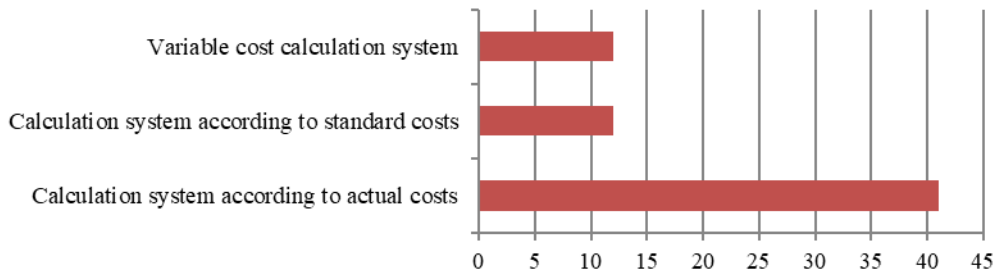
Source: Authors

We can conclude that accountants are least familiar with JIT and Backflush systems, as well as with Lean production and value stream accounting, as accounting information support for Lean management. However, the most familiar system reported by respondents was ABC and calculation and

management based on target costs, but it is still an insufficient percentage (*Graph 1*).

Of the traditional approaches, respondents mostly apply the cost accounting system based on actual costs (41), followed by the variable cost accounting system (12) and the standard cost accounting system (12).

Graph 2. The most applicable traditional cost accounting systems



Source: Authors

Finally, as part of an open-ended question in the survey, accountants were able to express their views on the main challenges of implementing the ABC method. They cite the following as the main challenges:

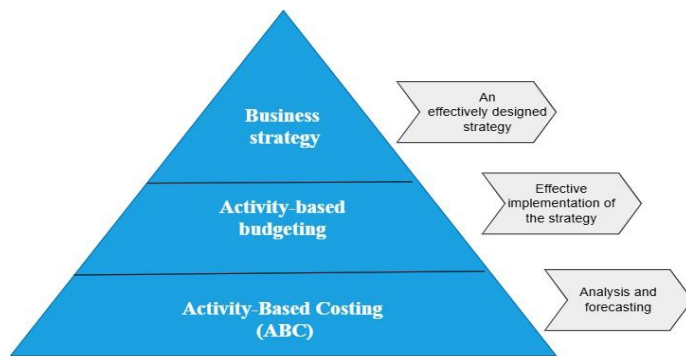
1. Complexity of implementation - ABC requires detailed mapping of activities and costs, which can be time and resource demanding. Identifying and tracking all relevant activities can be complicated, especially in large or complex organizations.
2. High implementation costs - The introduction of ABC systems implies significant initial investments in software, employee training and adjustment of accounting systems. Maintaining and updating the model can be expensive, especially if business processes change frequently.
3. Lack of professional staff - Accountants and managers are often not sufficiently trained in ABC or are not familiar with its advantages. Lack of internal support and professional knowledge can lead to rejection of the method by employees.
4. Resistance to change - Employees can be resistant to change because traditional costing methods seem simpler and more familiar.
5. Difficulty in collecting data and incompatibility with certain industries.

The importance of ABC system information support in the efficient application of business strategy

In addition to numerous scientific literature on modern approaches to costing and cost management, they are rarely applied in practice. As the main reason why they

do not apply modern approaches to management and cost accounting, mostly accounting representatives cite the complexity of the production process, but also the desire to maintain the existing cost accounting systems, i.e. the reluctance to innovate. In companies with a traditional corporate culture, changes to the cost accounting system are considered unnecessary or difficult to implement. Resistance to change can be high, especially if employees are used to existing processes. Implementation of modern accounting and cost management systems may require significant investments in infrastructure, software, staff training and changes in organizational structure. High start-up costs can be a barrier for many businesses. This analysis highlights the key challenges that companies face in cost management and shows the need for continuous education and improvement in this area. It also emphasizes the importance of adapting to modern cost management concepts in order to maintain competitiveness in a dynamic business environment. It also highlights the role of relevant institutions, such as the Associations of Accountants and Auditors, as well as educational institutions, in providing support and education in the area of cost accounting. This shows the need for a broader understanding and support in order to improve cost accounting systems and cost management information support in accordance with modern business requirements. It follows that high-quality systems of cost accounting by activities and budgeting by activities can represent the foundations for effective application of business strategy (*Graph 3*).

Graph 3. Relationships between business strategy, budgeting by activities and costing by activities



Source: Authors

The implementation of the business strategy includes projecting the needs for financial and human resources. These needs are included in the financial plan for the next fiscal/financial year, that is, the annual budget. In order for the annual budget to be aimed at the realization of adopted strategies and operational business decisions, it is necessary that it consists of two components: a strategic

budget for the management of discretionary programs (strategic breakthroughs - new products and services) and an operational budget for the management of business functions and lower organizational units. The operating budget consists of the projected revenues from the sale of products and services and the expenses that are expected to be incurred in order to generate the projected revenues. Current costs, which are included in the operating budget, should ensure the retention of existing consumers and products, as well as the costs necessary for launching new products and attracting new consumers in the following period. The most accurate assessment of these costs is through budgeting by activity. That budgeting takes place in several stages (Kaplan & Norton, 2001, 289-290):

1. assessment of the volume of sales and production in the following period. ABB begins at that stage, just like the traditional budgeting process. It involves evaluating the volume of sales, production, product mix and the number of consumers. However, an ABB should be much more detailed than a traditional budget. For example, it is important here to include information about the processes that are necessary to reach the overall level of production, the number of orders of materials, the method of delivery, etc. When it comes to consumers, it is necessary to evaluate the number of consumer orders, the average size of the order, the number of contacts with consumers, etc.;
2. forecasting the necessary activities. Budgeting by activity continues with the forecasting of necessary activities such as ordering materials, receiving materials, developing new products, selling to consumers, maintaining relationships with consumers. The conventional budget included only some of these activities, such as: purchase of materials, number of working hours of employees, number of machine hours. Activity budgeting extends this analysis to forecast all activities required to produce, sell, and deliver products and services;
3. projection of necessary resources. It is about the projection of all the resources by types and quantities that are necessary for the execution of all the above-mentioned activities. The resource projection uses data on projected activities, on the efficiency of resource use in the past, but also on predictions of possible efficiency improvements;
4. assessment of the costs of using the projected resources. It is about the step in which the cost of using resources and their timing is estimated. This is the most complex step in activity budgeting. With this kind of budget, for example, we are forced to predict the costs of the activity of ordering materials for one month, and then to predict the costs of receiving materials, handling materials, and inspecting materials in the following month.

The complexity of the last stage of the activity budgeting process contributes to the still limited use of this approach to budgeting. This happens despite the great theoretical simplicity of this approach. However, the very process of budgeting by

activities can cause a change in managerial behavior in the direction of reducing the size of the company (business unit) for those activities that do not contribute to the creation of value, but also the improvement of those activities in which the greatest value is added. The operating budget, however, does not provide the greatest opportunities for changing the company's strategic direction and aligning the organization with the growth strategy. It is, above all, focused on the implementation of the productivity improvement strategy. A strategic budget is necessary for the implementation of the growth strategy. Many companies fail to implement their strategy precisely because they do not have a strategic budget. A growth strategy cannot be applied, by trying to use existing human and financial resources, already engaged in the implementation of the operating budget. The strategic budget identifies the resources required to implement strategic initiatives to close the gap between the desired performance and the performance that is achievable based on the current way of doing business. This budget identifies new activities, new capabilities, new products and services, which must be launched, new alliances and joint ventures, which must be formed/created.

Conclusion

The application of business strategy implies an analytical approach that directs the attention of managers, in the search for sources of competitive advantage, to the level of activity. In the modern business environment, volatility and unpredictability have become common phenomena, which requires companies to constantly be in a race to achieve autonomy, drive progress and maintain a healthy financial structure in order to achieve success. Tendencies in the business environment require constant changes in production processes and management concepts, which implies adjustment of accounting methods. To keep up with trends, companies need to focus on innovation, conquering new markets and launching new products. Understanding the new business environment is crucial to continuously improve the organizational structure and strategy, in order to achieve the set goals.

The increase in overhead costs compared to direct costs results from the production and marketing of a wide range of products, the expansion of sales channels and intensive marketing and research and development activities. In addition, modern production is characterized by a changed structure and nature of certain costs, which often calls into question the traditional division between fixed and variable costs, with an increase in the share of general costs, which are not directly related to the volume of production. In modern firms, direct labor and material costs, which once played a dominant role, now often make up a small, declining portion of total production costs due to technological innovation and the

invention of cheaper materials. The automation of production contributes to the increase in companies' fixed costs, while the increase in fuel prices directly affects the purchase prices of technology. The increase in general costs arises from the growth of auxiliary activities outside of direct production, which leads to the problem of accurate calculation and allocation of costs to products. These factors lead to a significant increase in general costs in the total cost structure, which poses challenges in accurate product pricing, as well as cost accounting and management. Informational support for all new costing approaches is of key importance for their successful implementation. All of this includes the implementation of information systems that enable efficient collection, processing and analysis of data relevant to each specific approach to cost accounting. It also includes staff training to work with new cost accounting tools and techniques, as well as continuous support in the use of information systems to monitor and evaluate results. The integration of IT into accounting functions enables more efficient collection, processing, analysis and presentation of financial data. This support contributes to more efficient cost management and relevant decision-making in order to improve the company's performance. The use of specialized accounting software enables the automation of many accounting processes, including bookkeeping, financial reporting, invoice management and expense records. The implementation of Activity-Based Costing (ABC) as an information support tool for modern management significantly enhances the accuracy and relevance of cost data, enabling better decision-making and strategic planning. By allocating costs based on actual resource consumption, ABC provides managers with a clearer picture of operational efficiency and profitability. Furthermore, its integration with modern information systems facilitates real-time data processing and more precise financial analysis, fostering a more agile and competitive business environment. However, organizations that successfully adopt ABC can achieve better cost control, improved performance measurement, and enhanced strategic alignment. Ultimately, ABC represents a valuable tool for contemporary management, contributing to the optimization of business processes and the sustainable growth of organizations in an increasingly complex and dynamic market.

Traditional cost accounting systems dominate in Republic of Srpska, while modern approaches are rarely applied, mainly due to resistance to changes and process complexity, whereby we conclude that the practical application of modern approaches lags behind the theory. Challenges include high initial implementation costs, resistance to change and lack of adequately trained staff. Continuous education and support from adequate institutions is needed in order to raise awareness of newer and more modern approaches to cost calculation and

management, as well as the benefits of their application. The key is to adapt to modern concepts in order to maintain competitiveness in a dynamic business environment.

The results of this research indicate significant factors that influence the choice of cost accounting methods in companies. First, it was determined that there is a statistically significant difference in the degree of digitalization of companies depending on their size, with larger companies showing a higher level of digitalization, which enables them to apply modern cost accounting methods more easily. Second, the results of the Spearman correlation confirm the existence of a positive relationship between a high level of digitalization and the application of modern cost accounting methods. This indicates that companies that invest in digitization and IT support are more likely to use more modern approaches to cost accounting, which can contribute to more efficient financial management. Third, the logistic regression showed that the type of company ownership has a statistically significant effect on the choice of the cost accounting method. Privately and foreign-owned companies are significantly more likely to use modern costing methods compared to public companies. This result can be explained by the greater orientation of the private sector towards efficiency, competitiveness and cost optimization.

One of the main limitations of this study is the relatively small sample size, which may affect the generalizability of the results. Additionally, the research was conducted within a specific sector and geographic area, meaning a broader sample could provide a more comprehensive picture. Furthermore, the data were collected through a survey questionnaire, which carries the risk of subjective responses from participants. For future research, it is recommended to expand the sample to different industries and countries to obtain comparative results. Additionally, the use of qualitative methods, such as interviews or case studies, could provide deeper insights into the factors influencing the adoption of modern cost accounting methods. Moreover, it would be valuable to explore the long-term effects of digitalization and ownership structure on business efficiency and profitability.

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INFORMACIONA VREDNOST IZVEŠTAJA O TRANSPARENTNOSTI U POGLEDU KVALITETA REVIZIJE: SLUČAJ SRBIJE

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Rezime

Kvalitetna revizija predstavlja preduslov za očuvanje poverenja javnosti u profesiju. Međutim, kvalitet revizije nije jednostavno sagledati, pa regulatori zahtevaju od pojedinih revizorskih firmi obelodanjivanje informacija o sistemu kvaliteta u izveštajima o transparentnosti. Cilj rada jeste da oceni potencijal tih izveštaja da signaliziraju kvalitet revizije, sa posebnim osvrtom na revizorske firme koje posluju u Srbiji. Pored toga, istraživanje nastoji i da proceni napredak u tranziciji ka novoj regulativi upravljanja kvalitetom. Istraživanje se zasniva na analizi sadržaja izveštaja o transparentnosti za 2022. i 2023. godinu revizorskih firmi u Srbiji. Fokus analize je na obelodanjivanjima o sistemima kontrole i upravljanja kvalitetom, a komparativna analiza sadržaja sprovedena je kako između firmi, tako i kroz vreme. Autori su uočili varijacije u formi i sadržini obelodanjenih informacija. Izveštaji pojedinih firmi reflektuju konkretne napore u postizanju kvaliteta, dok se drugi pre čine kao instrument za usaglašavanje sa zahtevima regulatora.

Ključne reči: kvalitet revizije, ISQM, izveštaji o transparentnosti, Srbija

JEL: M42

Uvod

U revizorskoj profesiji, kvalitet nije samo pitanje usklađenosti sa propisima, već i temelj poverenja javnosti u rad revizora. Kvalitetna revizija smanjuje informacionu asimetriju i omogućava donošenje adekvatnih investicionih odluka pružanjem relevantnih informacija svim zainteresovanim stranama. Ukoliko revizija nije kvalitetno obavljena, revizorske firme ne samo da mogu biti podvrgnute sankcijama, već i narušena reputacija utiče na gubitak klijenata. Shodno tome, potencijalni reputacioni rizik predstavlja podsticaj revizorima da održavaju najviše standarde kvaliteta revizije (DeFond, Zhang, 2014). Međutim, konsenzus u pogledu definicije kvaliteta revizije ne postoji. De Angelo (1981)

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definiše kvalitet revizorskih usluga kao tržišno procenjenu verovatnoću da će revizor otkriti materijalno značajne pogrešne iskaze u računovodstvenom sistemu klijenta i ukazati na njih. S druge strane, Knechel et al. (2013) tvrde da je kvalitet revizije u oku posmatrača, odnosno da je reč o subjektivnom konceptu koji je podložan različitim percepcijama u zavisnosti od zainteresovane strane koja ga razmatra.

Prepreke u postizanju kvaliteta uzrokovane propustima u radu revizora, ali i odsustvom precizne definicije kvaliteta revizije rezultirale su bezuspešnim pokušajima profesije da odgonetne šta to tačno doprinosi kvalitetu. Kao rezultat toga, zahtevi regulatora za unapređenjem kvaliteta intenzivirali su se kroz izmene standarda revizije i kodeksa etike. Pored toga, profesionalna tela pružila su smernice razvijanjem okvira za kvalitet revizije ističući čitav set faktora koji utiču na kvalitet. Međutim, bez sistema interne kontrole kvaliteta, obezbeđivanje doslednosti u svim angažmanima pokazalo se kao izazovno, što je podstaklo razvoj standarda kvaliteta. Međunarodni standardi kontrole kvaliteta ponudili su smernice revizorskim firmama za konzistentno obezbeđivanje kvaliteta na svim angažmanima, a efektivna primena Međunarodnog standarda kontrole kvaliteta 1 (ISQC 1) počela je 15. decembra 2009. godine. Međutim, više od decenije kasnije, novi finansijski skandali, neizvesnosti u okruženju i razvoj savremenih tehnologija, podstakli su Odbor za međunarodne standarde revizije (IAASB) da predloži revidirani pristup kvalitetu. Pomenuta regulativa je zamenjena novom, te su uvedeni novi Međunarodni standardi upravljanja kvalitetom – Međunarodni standard upravljanja kvalitetom 1 (ISQM 1) i Međunarodni standard upravljanja kvalitetom 2 (ISQM 2).

Uvid u način rada revizorskih firmi i kvalitet pružene usluge revizije ne može se lako sagledati od strane onih koji su korisnici usluga revizije. Moglo bi se reći da revizija za njih u velikoj meri ostaje “crna kutija”. Stoga ne iznenađuje što su regulatori prepoznali potrebu za implementacijom rešenja koje će obezbediti veću vidljivost revizorskih firmi i postavili zahteve za objavljivanje izveštaja o transparentnosti. Glavni podsticaj za ovu inicijativu bilo je očekivanje da će veća transparentnost pružiti uvid u kvalitet revizije i omogućiti razlikovanje revizorskih firmi (Deumes et al., 2012). Benefiti transparentnosti brzo su prepoznati, pa su izveštaje o transparentnosti objavljivale i firme za koje to nije bilo obavezno.

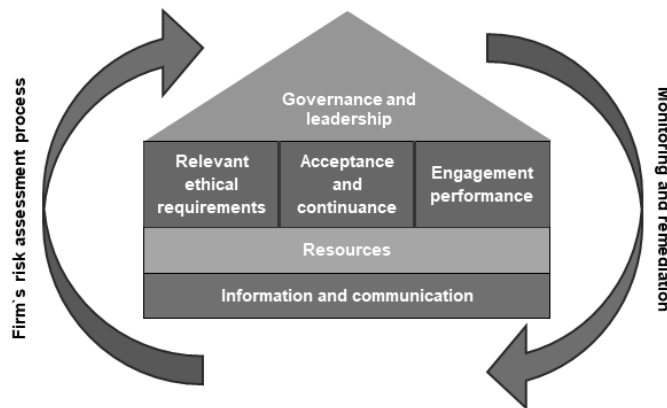
Novi pristup upravljanja kvalitetom revizije

Uvođenje novih standarda predstavlja značajan zaokret u pristupu, singalizirajući strože zahteve za revizorske firme. ISQM 1 nalaže da firme prilikom dizajniranja i implementiranja sistema upravljanja kvalitetom uzmu u obzir prirodu i okolnosti firme i razviju integrisan pristup koji tretira sistem kao kohezionu celinu međusobno povezanih elemenata, a ne kao zasebne komponente, kao što je to bio slučaj sa ISQC 1. Dakle, prema novom standardu, sistem upravljanja kvalitetom

zamišljen je da funkcioniše na kontinuiran i iterativan način, reagujući na promene u prirodi i okolnostima firme i njenih angažmana (IAASB, 2021).

U skladu sa ISQM 1, sistem upravljanja kvalitetom ima osam komponenti, kao što je i predstavljeno na Slici 1. Slično prethodnom sistemu, i ovaj potvrđuje da konačna odgovornost za kvalitet leži na rukovodstvu revizorske firme. Ton postavljen na vrhu utiče na sve zaposlene, motivišući ih da preuzmu odgovornost za kvalitet u okviru svojih uloga. Međutim, novi standard od revizorskih firmi zahteva da eksplicitno dodele konačnu odgovornost direktoru firme, vodećem partneru ili bordu direktora (ISQM 1, para. 20). Komponente poput etičkih zahteva, prihvatanja novog klijenta ili nastavka saradnje sa postojećim bile su predviđene i u okviru prethodnog sistema. S obzirom na to da su osim nezavisnosti revizora važan faktor kvalitetne revizije i reputacije revizorske firme karakteristike klijenta revizije, prilikom prihvatanja novog ili nastavka saradnje sa postojećim klijentom pored komercijalnog aspekta, revizorska firma mora da se rukovodi i uspostavljenim politikama i procedurama, odnosno da donosi odluke imajuću u vidu prirodu i okolnosti angažmana i integritet i etičke vrednosti klijenta, kao i sposobnost firme da izvede angažman u skladu sa regulativom. Sposobnost izvođenja angažmana uslovljena je dovoljnim i odgovarajućim resursima, a novi standard pored ljudskih ističe i tehnološke i intelektualne resurse koje je potrebno razvijati, primenjivati i održavati.

Slika 1. Elementi sistema upravljanja kvalitetom



Izvor: IAASB, 2019;

Ključna razlika novog u poređenju sa prethodnim standardom ogleda se u uvođenju dva nova elementa. Iako se jednim od njih naglašava značaj komunikacije i protoka informacija unutar revizorske firme, ali i prema eksternim licima, suštinska promena dolazi sa uvođenjem pristupa zasnovanog na riziku (Manea, Bratu, 2023). Ukoliko pretpostavimo da postoje brojni rizici kojima revizorske firme mogu biti izložene, kao i da se oni razlikuju među firmama, glavna prednost ove komponente je što eliminiše mogućnost šablonskog pristupa

kvalitetu. Upravljanje kvalitetom zasnovano na riziku zahteva od revizorskih firmi da prvo postave ciljeve kvaliteta usmere na ishode za svaku komponentu sistema. Za svaki od postavljenih ciljeva identifikuju se i ocenjuju rizici koji mogu dovesti u pitanje njihovo postizanje. Međutim, važno je napomenuti da nije svaki rizik relevantan, već je pre dizajniranja i implementiranja odgovora na rizike neophodno utvrditi stepen uticaja tih rizika na ostvarivanje ciljeva kvaliteta, kao i verovatnoću njihovog nastanka (IAASB, 2020).

Iako je uvođenjem novog pristupa kvalitetu cilj ostao nepromenjen, zaključujemo da ISQM 1 donosi proaktivniji pristup upravljanja kvalitetom, ali i izazovniji za implementaciju, naročito za manje revizorske firme. Prelazak sa fiksnog modela kontrole na fleksibilniji i dinamičniji sistem izazvao je zabrinutost u pogledu njegove efikasnosti, jer zahteva značajne resurse za implementaciju, a povezani troškovi mogu predstavljati prepreku za razvoj efikasnih sistema. Postavlja se i pitanje da li će promena standarda zaista unaprediti kvalitet u svim firmama.

Izveštaji o transparentnosti kao signal kvaliteta revizije

Iako izveštaj o transparentnosti sadrži širok opseg informacija, Deumes et al. (2012) ističu da osnov za percepciju kvaliteta revizije predstavljaju informacije o kontinuiranoj edukaciji revizora, nezavisnosti i internom sistemu kontrole kvaliteta. Transparentnost u implementaciji i nadzoru sistema kontrole kvaliteta može biti od značaja zainteresovanim stranama prilikom poređenja revizorskih firmi i razmatranja njihovog pristupa kvalitetu revizije (IOSCO, 2009). Međutim, iako detaljan izveštaj o transparentnosti može odražavati posvećenost firme kvalitetu, on nije nužno garancija visokog kvaliteta revizije, te je neophodno pažljivo razmotriti relevantnost objavljenih informacija kao signala kvaliteta.

Fu et al. (2015) analizirali su izveštaje o transparentnosti 21 revizorske firme u Australiji za 2013. godinu. Iako autori ističu da bi obelodanjivanje detaljnih informacija o sistemima kontrole kvaliteta u skladu sa ISQC 1 pružilo relevantne uvide, rezultati istraživanja pokazuju varijacije u opisu elemenata sistema između revizorskih firmi, pri čemu neki aspekti dobijaju minimalnu pažnju. Kao rezultat toga, ta neusklađenost podriva potencijal izveštaja o transparentnosti da pouzdano signaliziraju kvalitet revizije. Slično prethodnom istraživanju, Deumes et al. (2012) ispitali su da li su varijacije u nivou transparentnosti među revizorskim firmama povezane sa stvarnim kvalitetom revizije, kao i da li se revizorske firme mogu razlikovati po kvalitetu na osnovu uvida dobijenih iz izveštaja o transparentnosti. Rezultati istraživanja ukazuju na to da postoje razlike u nivou transparentnosti kod 103 revizorske firme u više zemalja EU, pri čemu su veće revizorske firme imale i viši indeks transparentnosti. Međutim, autori su zaključili da analizirani izveštaji nisu pouzdan signal kvaliteta revizije.

Revizorska literatura generalno tvrdi da je kvalitet revizije u korelaciji sa veličinom revizorske firme (De Angelo, 1981; Francis, Yu, 2009, Deumes et al.,

2012; Li et al., 2023). Veće revizorske firme pružaju kvalitetnije usluge ne samo zbog svojih obimnih resursa, znanja i iskustva u sprovođenju angažmana, već i zato što bi gubitak reputacije značio i finansijski gubitak i gubitak klijenata. U skladu s tim, od „Velike četvorke“ (Big 4) se mogu očekivati kvalitetnije revizije, a pod pretpostavkom pozitivne veze između kvaliteta revizije i obima informacija u izveštaju o transparentnosti, očekuje se i viši nivo transparentnosti. Na taj način, velike revizorske firme se mogu značajno diferencirati od manjih i signalizirati kvalitet svojih usluga zainteresovanim stranama. Ipak, Johl et al. (2021) tvrde da Big 4, s obzirom na već izgrađenu jaku reputaciju i tržišnu poziciju, ne koriste transparentnost u cilju tržišnog diferenciranja, kao što to čine firme koje ne pripadaju ovoj grupi.

S druge strane, Francis i Yu (2009) naglašavaju da se razlike u kvalitetu revizije mogu uočiti i unutar Big 4, u zavisnosti od veličine pojedinačnih kancelarija, pri čemu je kvalitet revizije u proseku viši u većim kancelarijama, što može dovesti i do razlika u izveštajima o transparentnosti. Takođe, Girdhar i Klarskov Jeppesen (2018) identifikuju postojanje razlika u praksama izveštavanja o transparentnosti među firmama Big 4 i pripisuju ih teoriji varijacije praksi, odnosno uticaju višestrukog institucionalnog okruženja. Oni tvrde da su ove firme pod uticajem ne samo institucionalnog okruženja svojih međunarodnih mreža, već i nacionalnog okruženja zemalja u kojima posluju, što utiče na obim i sadržaj njihovih izveštaja o transparentnosti.

Cilj rada i metodologija

Iako izveštaji o transparentnosti već neko vreme zaokupljaju pažnju profesije i regulatora, povezana akademska istraživanja su prilično ograničena (Almeida et al., 2022). To je posebno slučaj sa istraživanjem izveštaja o transparentnosti u zemljama u razvoju. La Rosa et al. (2019) u svom empirijskom istraživanju potvrđuju da viši kvalitet revizije na nacionalnom nivou pozitivno utiče na obim informacija koje revizorske firme pružaju u izveštajima o transparentnosti. Međutim, u zemljama koje nemaju dugu tradiciju i zrelost u eksternoj reviziji i gde tek treba izgraditi poverenje u profesiju revizije, potencijal izveštaja o transparentnosti bi mogao da budu značajan u vidu korisnog sredstva koje bi doprinelo afirmaciji profesije. Sa druge strane, postoji opasnost i da, u skladu sa institucionalnom teorijom, nametanje obaveznog izveštavanja o transparentnosti učini izveštaje pukom formom, bez suštinske vrednosti. Naše istraživanje je upravo usmereno na okruženje Srbije, kao zemlje u razvoju, gde revizija tek treba da zauzme mesto koje ima u razvijenim zemljama, a sa ciljem sagledavanja trenutnog pristupa izveštavanju o transparentnosti. Posebnu pažnju posvećujemo informacionoj vrednosti izveštaja o transparentnosti u kontekstu sistema kontrole kvaliteta, odnosno, u novijem periodu, sistema upravljanja kvalitetom, koji primenjuju revizorske firme u Srbiji.

Na osnovu uvida u javno dostupan Registar društava za reviziju koji vodi Komora ovlašćenih revizora u Srbiji je trenutno registrovano 77 društava za reviziju. Međutim, prema Zakonu o reviziji ("Sl. glasnik RS", br. 73/2019) samo društva koja obavljaju reviziju društava od javnog interesa su u obavezi da godišnje izveštaje o transparentnosti pripreme i učine dostupnim javnosti najkasnije nakon četiri meseca od isteka kalendarske godine, što je usklađeno sa regulativom EU. Dodatno, Zakon o reviziji zahteva da osim obelodanjivanja izveštaja na internet stranicama društava za reviziju oni moraju biti dostupni i na veb sajtu Komore ovlašćenih revizora.

U uzorak su uključeni izveštaji za 2022. i 2023. godinu, jer u trenutku prikupljanja podataka rok za predaju izveštaja za 2024. godinu nije istekao. Prikupljanje izveštaja za dve uporedne godine omogućilo je poređenje izveštaja ne samo među revizorskim firmama, nego i u vremenu, što je posebno imalo značaja, jer se u međuvremenu promenila profesionalna regulativa u pogledu standarda kvaliteta. U prvom koraku prikupljeni su izveštaji o transparentnosti dostupni na veb sajtu Komore. Kako bi se prevazišao potencijalni problem neobjavljivanja izveštaja na veb sajtu Komore, autori su posetili i veb sajtove revizorskih firmi kako bi se uverili u potpunost uzorka. Pronađeno je da je šest izveštaja za 2022. godinu i osam izveštaja za 2023. godinu isključivo dostupno na veb sajtovima relevantnih revizorskih firmi. Takođe, zanimljiv je i nalaz da je jedna revizorska firma objavila izveštaj na dobrovoljnoj osnovi, iako nije obavljala reviziju društava od javnog interesa. Takva praksa može se smatrati poželjnom, jer omogućava revizorskoj firmi da istakne svoju posvećenost transparentnosti i kvalitetu, što može pozitivno uticati na njen potencijal za širenje portfolija klijenata.

S obzirom na to da ne postoji javno dostupna lista društava od javnog interesa u Srbiji, kao ni lista revizorskih firmi koje ih revidiraju, ne može se utvrditi da li su neke revizorske firme, koje su bile u obavezi da objave izveštaje o transparentnosti, izbegle to da učine. Ipak, takvi slučajevi se mogu javiti (Pivac, Čular, 2012; Čular, 2017) i uticati na zaključke o transparentnosti. Uzorak je obuhvatio 51 izveštaj, od kojih je 25 objavljeno za 2022. godinu, a 26 za 2023. godinu. U obe posmatrane godine 23 revizorske firme su objavile izveštaje, dok su dve firme objavile samo za 2022. godinu, a tri samo za 2023. godinu. Istraživanjem je tako obuhvaćeno 28 revizorskih firmi. Tabela 1 pruža sveobuhvatan pregled dostupnih izveštaja o transparentnosti prema vrsti revizorske firme koja je objavila izveštaj, kao i ukupnom broju društava od javnog interesa obuhvaćenih dostupnim izveštajima za svaku godinu. Napominjemo da smo razvrstavanje revizorskih firmi izvršili na osnovu uvida u Registar društava za reviziju, jer je članom 66 Zakona o reviziji predviđeno da registar između ostalog mora sadržati i podatke o članstvu u mreži.

Tabela 1. Karakteristike analiziranog uzorka

Godina	Broj izveštaja o transparentnosti (nije dostupno na veb sajtu Komore)				Broj društava od javnog interesa
	Big 4	Revizorske firme koje su članice globalne ili međunarodne mreže	Domaće revizorske firme	Ukupno	
2022	4	12 (5)	9 (1)	25	679
2023	4	12 (5)	10 (3)	26	765

Izvor: Istraživanje autora.

Nakon što su pribavljeni svi dostupni izveštaji o transparentnosti, dalje istraživanje je zasnovano na analizi sadržaja segmenata izveštaja o transparentnosti koji se odnose na sistem kontrole (system of quality control-SOQC), odnosno upravljanja kvalitetom (system of quality management -SOQM). Kako bi se postigao cilj rada, sprovedena je uporedna analiza sadržaja između revizorskih firmi, ali i unutar svake firme kroz dve analizirane godine.

Rezultati rada sa diskusijom

Analizom sadržaja izveštaja o transparentnosti, sa posebnim osvrtom na informacije o sistemima kvaliteta, utvrđeno je da većina revizorskih firmi i dalje primenjuje ISQC 1 i funkcioniše u okviru sistema kontrole kvaliteta, dok je pet firmi u 2022. godini i osam u 2023. godini prešlo na novi sistem upravljanja kvalitetom. Dobijeni rezultati ukazuju na nepovoljno institucionalno okruženje, koje se ogleda u kašnjenju prilikom usvajanja novih praksi upravljanja kvalitetom. Ovakvo stanje može se, s jedne strane, pripisati nedostatku prevoda relevantnih standarda, dok, s druge strane može predstavljati pokazatelj ograničenog interesa revizorskih firmi za proaktivnu implementaciju novog pristupa kvalitetu u odsustvu regulatornog pritiska. U prilog drugoj pretpostavci govore nalazi prikazani u Tabeli 2, koji prikazuju primenu SOQM prema vrsti revizorskih firmi u 2023. godini.

Tabela 2. Implementacija sistema upravljanja kvalitetom u 2023. godini

	Broj revizorskih firmi	Broj revizorskih firmi koje su implementirale SOQM
Big 4	4	4
Revizorske firme koje su članice globalne ili međunarodne mreže	13	4
Domaće revizorske firme	9	0

Izvor: Istraživanje autora.

Kao što se i očekivalo, Big 4 su implementirale SOQM. Trećina revizorskih firmi koje su članice međunarodnih ili globalnih mreža pokazale su takođe spremnost za usvajanje zahtevnijeg SOQM, što je delimično rezultat dostupnosti resursa i

stručnog znanja koje im njihove mreže stavljaju na raspolaganje. Sa druge strane, nijedna domaća revizorska firma nije promenila svoj pristup, te je očigledno da se integracija SOQM u revizorsku praksu u Srbiji može očekivati tek kada se ispune zakonski uslovi, odnosno kada se obezbedi zvaničan prevod i nova regulativa postane obavezna.

U cilju obezbeđivanja relevantnog poređenja, analiza je nastavljena kroz klasifikaciju revizorskih firmi u dve grupe, Prvu grupu čine revizorske firme koje primenjuju SOQC, dok drugu grupu obuhvataju firme koje su prešle na SOQM. U okviru prve grupe, nalazi istraživanja ukazuju na to da izveštaji o transparentnosti domaćih revizorskih firmi sadrže znatan deo neoriginalnog, šablonski oblikovanog sadržaja u vezi sa SOQC. Naime, firme najčešće započinju navođenjem elemenata, a zatim slede opisi koji u velikoj meri odražavaju formulacije iz standarda. Istovremeno, poređenje izveštaja za 2022. i 2023. godinu ne pokazuje značajne razlike u sadržaju informacija o sistemu kvaliteta. Međutim, doslednost u izveštavanju nije rezultat savršeno uspostavljenog sistema, već je verovatnije da su sistemi kontrole kvaliteta uspostavljeni primarno radi ispunjavanja regulatornih zahteva, a ne kao rezultat posvećenosti unapređenju kvaliteta, što objašnjava i ograničene informacije koje firme obelodanjuju. Konkretno, politike i procedure su uspostavljene, a neke od firmi ističu i postojanje Pravilnika o kontroli kvaliteta.

Ipak, izostanak detaljnog opisa sistema izaziva zabrinutost u pogledu njegove stvarne efikasnosti i podriva svrhu izveštaja o transparentnosti. Prema nalazima FRC (2019), korisnici izveštaja očekuju uravnoteženu samoprocenu SOQC, koja bi im omogućila razumevanje načina na koji firme identifikuju i rešavaju probleme u vezi sa kvalitetom. U svojoj studiji, Aydemir et al. (2023) su na uzorku od 612 izveštaja o transparentnosti objavljenih u Turskoj u periodu od 2013. do 2020. godine identifikovali upravo efekat uniformnosti kao prepreku smanjenju informacione asimetrije.

Iako domaće revizorske firme većinski nisu sklone obelodanjivanju detaljnijih informacija o sistemima kontrole kvaliteta, te se ne mogu izvesti pozitivni zaključci o potencijalu izveštaja o transparentnosti da signaliziraju kvalitet revizije, ipak se može identifikovati manji broj firmi koje se izdvajaju pružanjem značajno više informacija o svojim sistemima kontrole kvaliteta. Njihova obelodanjivanja prevazilaze puko ponavljanje smernica iz standarda, nudeći u pojedinim aspektima detaljnije opise politika i procedura unutar svakog elementa sistema. Ipak, čak i kod ovih firmi specifični sadržaj izveštaja je skroman i pri tome identičan u posmatranim godinama, tako da se ne može govoriti o većoj informativnoj vrednosti izveštaja u pogledu SOQC.

Kada je reč o revizorskim firmama koje su članice globalnih ili međunarodnih mreža, a pripadaju prvoj grupi u analizi, odnosno onima koje još uvek nisu implementirale SOQM, situacija u pogledu transparentnosti slična je domaćim

revizorskim firmama. Ovakvi nalazi ukazuju na to da pripadnost međunarodnoj mreži ne garantuje nužno veću transparentnost budući da su izveštaji o transparentnosti revizorskih firmi, kako su pokazale prethodne empirijske studije (Girdhar, Klarskov Jeppesen, 2018; La Rosa et al., 2019), pod uticajem ne samo mreži, već i institucionalnog okruženja zemalja u kojima posluju. Stoga se sklonost ka šablonskom izveštavanju može objasniti nedostatkom tržišnog pritiska u pogledu kvaliteta usled nerazvijenog tržišta kapitala u Srbiji, ali i jasnim tržišnim pozicioniranjem određenih firmi, naročito Big 4. Navedeni razlozi su podjednako relevantni i za domaće revizorske firme, koje se dodatno suočavaju sa izazovom ograničenih resursa za primenu novih rešenja.

Ukupno osam firmi prilagodilo je svoj sistem novim standardima upravljanja kvalitetom i u svojim izveštajima o transparentnosti za 2023. godinu obelodanilo informacije o tome. Međutim, u njihovom izveštavanju o kvalitetu mogu se uočiti kako određene sličnosti tako i razlike. Naime, izveštaji revizorskih firmi izvan Big 4 mreže strukturno prate obavezne elemente izveštaja definisane Zakonom o reviziji, jasno pokazujući znatno viši nivo transparentnosti u opisu upravljanja kvalitetom u poređenju sa prethodno analiziranom grupom firmi. Nasuprot tome, izveštaji Big 4 nisu strogo formatirani, ali sadrže sve informacije propisane regulativom, pa čak i više od toga. Drugačiji tonalitet posledica je i uključivanja posebnih pasusa pre opisa sistema kvaliteta, kojima se naglašava posvećenost kvalitetu, rad u interesu javnosti i kontinuirano prilagođavanje promenama u okruženju u cilju očuvanja kvaliteta. Tako, na primer, EY ističe *Next Wave* strategiju osmišljenu za brzo prilagođavanje promenama u okruženju, PWC poseban naglasak stavlja na Okvir za upravljanje kvalitetom radi postizanja poslovne izvrsnosti, dok KPMG naglašava globalan pristup sistemu upravljanja kvalitetom. Deloitte ističe posvećenost kvalitetu revizije kroz ulaganje u resurse i alate u cilju unapređenja kvaliteta i kontinuirano prilagođavanje ekonomskim, poslovnim i regulatornim uslovima. Big 4 često koriste termin poput „strateška posvećenost“ kako bi signalizirale svoju proaktivnu i dugoročnu posvećenost kvalitetu kroz inovacije i ulaganja.

Analiza sadržaja izveštaja o transparentnosti pomenutih osam firmi pokazuje da sve ističu da su na nivou mreže uspostavljeni okviri, pravilnici ili priručnici za sve članice, a koji se prilagođavaju karakteristikama okruženja u kojima članice posluju. Pored toga, kompanije članice imaju pristup politikama, tehnologijama, strategijama i programima koje mogu koristiti prilikom osmišljavanja i implementacije svojih sistema upravljanja kvalitetom. Zapravo, dostupnost ovih resursa i potreba za usklađenim politikama i procedurama na nivou mreže rezultirali su implementacijom novih standarda od strane članica u Srbiji uprkos odsustvu prevoda. Oslanjanje na politike i procedure definisane na nivou mreže signalizira potencijalno veći kvalitet usluga s obzirom na to da se matične kompanije uglavnom nalaze u okruženju sa strožim regulatornim zahtevima i razvijenijim tržištem kapitala. Štaviše, ove firme ističu da u okviru globalnih

programa praćenja kvaliteta nije dovoljno samo vršiti nadzor nad sistemom u cilju identifikovanja nedostataka, već se zahteva i analiza osnovnih uzroka tih nedostataka. Razumevanje zašto dolazi do nedostataka od ključnog je značaja za preduzimanje korektivnih mera.

Budući da ISQM predstavlja značajan iskorak, naročito uvođenjem novog elementa - procesa ocene rizika unutar sistema, analizirali smo posebno obelodanjivanja o ovom elementu. Na primer, Deloitte ističe da im implementacija novog pristupa pruža priliku za samovrednovanje kroz kontinuirano identifikovanje oblasti za unapređenje. Pored toga, bez obzira što postoje razvijeni ciljevi kvaliteta, rizici i odgovori na nivou mreže, svaka članica u svom izveštaju naglašava da su oni prilagođeni njenom okruženju i vrstama angažmana, čime se sprečava puko formalno preuzimanje mrežnog okvira. Jedan od aspekata koji bi sigurno mogao doprineti većem stepenu transparentnosti u ovoj oblasti, a koji je izostao u analiziranim izveštajima, jeste eksplicitnije isticanje definisanih ciljeva kvaliteta, uz pružanje konkretnih primera rizika i odgovora. Na osnovu navedenog može se zaključiti da postoji prostor za sadržaje više prilagođene pojedinačnim karakteristikama svake firme, kao i potreba za unapređenjem pristupa izveštavanju kako bi se obezbedila uravnoteženija perspektiva koja odražava stvarne performanse, a ne isključivo pozitivne aspekte.

Zaključak

Analiza izveštaja o transparentnosti revizorskih firmi u Srbiji, sa posebnim fokusom na obelodanjivanje informacija o sistemima kontrole kvaliteta, odnosno upravljanja kvalitetom, omogućila je procenu napretka u prelasku na novu regulativu u oblasti upravljanja kvalitetom. Rezultati analize sadržaja pokazuju da je samo manjina revizorskih firmi implementirala SOQM, budući da njegova primena u Srbiji još uvek nije obavezna dok se ne završi prevod novih standarda. To stvara jaz u primeni profesionalnih standarda i naprednih praksi u srpskom okruženju. Nalazi takođe ukazuju da nivo transparentnosti u analiziranim izveštajima nije visok zbog prekomerne upotrebe šablonskog jezika i neuravnoteženog izveštavanja koje favorizuje pozitivne informacije. Ipak, pojedini izveštaji se izdvajaju po detaljnim opisima i sadržaju prilagođenom specifičnostima konkretnih firmi.

Evidentno je da potencijal izveštaja o transparentnosti kao indikatora kvaliteta još uvek nije u potpunosti iskorišćen. Iako su se prethodna istraživanja o transparentnosti uglavnom odnosila na razvijene zemlje, ovaj rad doprinosi širenju znanja o transparentnosti revizorskih firmi u zemljama u razvoju, što je posebno značajno s obzirom na ulogu koju transparentnost može da ima u afirmaciji profesije. Regulatori bi mogli imati koristi od ovih nalaza tako što bi usmerili dodatne napore ka promociji i unapređenju informativnog sadržaja izveštaja. Praktičari, sa druge strane, mogu prepoznati priliku da se izdvoje na tržištu kroz

posvećenost transparentnosti i ulaganje u sisteme kvaliteta. Buduća istraživanja bi mogla da obuhvate duži vremenski period posmatranja, posebno u vezi sa implementacijom SOQM, kao i detaljniju analizu celokupnog sadržaja izveštaja. Pored toga, neophodno je podstaći sprovođenje empirijskih kvalitativnih i kvantitativnih studija koje analiziraju odnos između kvaliteta revizije i transparentnosti revizorskih firmi.

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INFORMATIONAL VALUE OF TRANSPARENCY REPORTS REGARDING AUDIT QUALITY: EVIDENCE FROM SERBIA

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Abstract

High-quality auditing is a prerequisite for maintaining public trust in the profession. However, quality is not easily observable, so regulators mandate certain audit firms to disclosure information about their quality systems in transparency reports. The aim of this paper is to examine the potential of transparency reports to signal audit quality, with particular emphasis on audit firms operating in Serbia. Furthermore, study seeks to assess the progress in the transition to the new quality management regulation. The research is based on an analysis of the content of transparency reports published by audit firms operating in Serbia for 2022 and 2023. The focus of analysis is on disclosures related to their quality control or quality management systems, with a comparative analysis of the content conducted both across firms and over time. The authors found variations in both the form and content of the disclosed information. Some reports reflect tangible efforts to achieve quality, while others seem to function primarily as tools for compliance with regulatory requirements.

Keywords: *audit quality, ISQM, transparency reports, Serbia.*

JEL: M42

Introduction

In the audit profession, quality is not only a matter of compliance with regulations, but also the foundation of public trust in the work of auditors. A quality audit reduces information asymmetry and enables adequate investment decisions by providing relevant information to all stakeholders. If the audit is not performed with high quality, audit firms may not only be subject to sanctions, but also the damaged reputation affects the loss of clients. Accordingly, potential reputational risk is an incentive for auditors to maintain the highest standards of audit quality (DeFond, Zhang, 2014). However, there is no consensus regarding the definition of audit quality. De Angelo (1981) defines the quality of audit services as the market-assessed probability that the auditor will detect and point out material misstatements in the client's accounting system. On the other hand, Knechel et al. (2013) argue that audit quality is in the eye of the beholder, i.e., it is

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a subjective concept that is subject to different perceptions depending on the stakeholder considering it.

Obstacles to achieving quality caused by auditor failures, but also by the lack of a precise definition of audit quality, have resulted in the profession's unsuccessful attempts to figure out what exactly contributes to quality. As a result, regulatory demands for quality improvement have intensified through changes to auditing standards and codes of ethics. In addition, professional bodies have provided guidance by developing audit quality frameworks highlighting a whole set of factors that influence quality. However, without an internal quality control system, ensuring consistency across engagements has proven challenging, which has prompted the development of quality standards. International Standards on Quality Control have provided guidance to audit firms for consistently ensuring quality across engagements, and the effective implementation of International Standard on Quality Control 1 (ISQC 1) began on December 15, 2009. However, more than a decade later, new financial scandals, uncertainties in the environment, and the development of modern technologies have prompted the International Auditing Standards Board (IAASB) to propose a revised approach to quality. The aforementioned regulation was replaced by a new one, and new International Standards for Quality Management were introduced – International Standard for Quality Management 1 (ISQM 1) and International Standard for Quality Management 2 (ISQM 2).

Insight into the way audit firms work and the quality of the audit service provided cannot be easily perceived by those who are users of audit services. It could be said that auditing remains largely a “black box” for them. It is therefore not surprising that regulators have recognized the need to implement solutions that will ensure greater visibility of audit firms and have set requirements for the publication of transparency reports. The main impetus for this initiative was the expectation that greater transparency would provide insight into the quality of the audit and enable the differentiation of audit firms (Deumes et al., 2012). The benefits of transparency were quickly recognized, and transparency reports were also published by firms for which it was not mandatory.

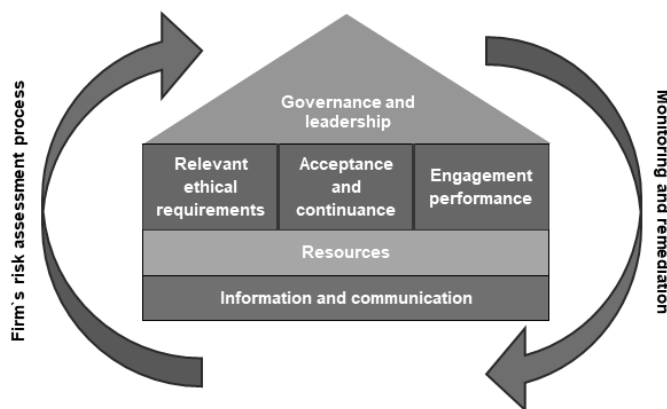
New approach to audit quality management

The introduction of the new standards represents a significant shift in approach, singling out more stringent requirements for audit firms. ISQM 1 requires that firms, when designing and implementing a quality management system, take into account the nature and circumstances of the firm and develop an integrated approach that treats the system as a cohesive whole of interconnected elements, rather than as separate components, as was the case with ISQC 1. Therefore, according to the new standard, the quality management system is designed to

operate in a continuous and iterative manner, responding to changes in the nature and circumstances of the firm and its engagements (IAASB, 2021).

In accordance with ISQM 1, the quality management system has eight components, as presented in Figure 1. Similar to the previous system, this one also confirms that the ultimate responsibility for quality lies with the management of the audit firm. The tone set at the top influences all employees, motivating them to take responsibility for quality within their roles. However, the new standard requires audit firms to explicitly assign ultimate responsibility to the firm's director, managing partner or board of directors (ISQM 1, para. 20). Components such as ethical requirements, accepting a new client or continuing cooperation with an existing one were also foreseen within the previous system. Given that, in addition to the independence of the auditor, an important factor in the quality of the audit and the reputation of the audit firm is the characteristics of the audit client, when accepting a new or continuing cooperation with an existing client, in addition to the commercial aspect, the audit firm must be guided by established policies and procedures, i.e. make decisions taking into account the nature and circumstances of the engagement and the integrity and ethical values of the client, as well as the firm's ability to perform the engagement in accordance with regulations. The ability to perform the engagement is conditioned by sufficient and appropriate resources, and the new standard, in addition to human, also emphasizes technological and intellectual resources that need to be developed, applied and maintained.

Figure 1. Elements of the quality management system



Source: IAASB, 2019;

The key difference between the new standard and the previous one is reflected in the introduction of two new elements. Although one of them emphasizes the importance of communication and information flow within the audit firm, but also towards external parties, the essential change comes with the introduction of a risk-based approach (Manea, Bratu, 2023). If we assume that there are numerous

risks to which audit firms may be exposed, and that they differ between firms, the main advantage of this component is that it eliminates the possibility of a template approach to quality. Risk-based quality management requires audit firms to first set quality objectives focused on outcomes for each component of the system. For each of the set objectives, risks that may jeopardize their achievement are identified and assessed. However, it is important to note that not every risk is relevant, but before designing and implementing responses to risks, it is necessary to determine the degree of impact of these risks on the achievement of quality objectives, as well as the likelihood of their occurrence (IAASB, 2020).

Although the objective remains the same with the introduction of the new approach to quality, we conclude that ISQM 1 brings a more proactive approach to quality management, but also more challenging to implement, especially for smaller audit firms. The transition from a fixed control model to a more flexible and dynamic system has raised concerns about its effectiveness, as it requires significant resources for implementation, and the associated costs can be an obstacle to the development of effective systems. The question also arises whether the change in standards will actually improve quality in all firms.

Transparency reports as a signal of audit quality

Although transparency reports contain a wide range of information, Deumes et al. (2012) point out that the basis for the perception of audit quality is information about the continuing education of auditors, independence and internal quality control systems. Transparency in the implementation and monitoring of quality control systems can be important for stakeholders when comparing audit firms and considering their approach to audit quality (IOSCO, 2009). However, while a detailed transparency report may reflect a firm's commitment to quality, it is not necessarily a guarantee of high audit quality, and the relevance of the information disclosed as a signal of quality needs to be carefully considered.

Fu et al. (2015) analyzed the transparency reports of 21 audit firms in Australia for 2013. Although the authors point out that the disclosure of detailed information about quality control systems in accordance with ISQC 1 would provide relevant insights, the results of the study show variations in the description of system elements between audit firms, with some aspects receiving minimal attention. As a result, this inconsistency undermines the potential of transparency reports to reliably signal audit quality. Similar to previous research, Deumes et al. (2012) examined whether variations in the level of transparency across audit firms are associated with actual audit quality, and whether audit firms can be differentiated in terms of quality based on insights gained from transparency reports. The results of the study indicate that there are differences in the level of transparency across 103 audit firms across several EU countries, with larger audit firms also having a higher transparency index. However, the authors

concluded that the reports analyzed are not a reliable signal of audit quality. The audit literature generally argues that audit quality is correlated with audit firm size (De Angelo, 1981; Francis, Yu, 2009; Deumes et al., 2012; Li et al., 2023). Larger audit firms provide better quality services not only because of their extensive resources, knowledge and experience in conducting engagements, but also because loss of reputation would mean financial loss and loss of clients. Accordingly, higher quality audits can be expected from the “Big 4” (Big 4), and assuming a positive relationship between audit quality and the extent of information in the transparency report, a higher level of transparency is also expected. In this way, large audit firms can significantly differentiate themselves from smaller ones and signal the quality of their services to stakeholders. However, Johl et al. (2021) argue that the Big 4, given their already strong reputation and market position, do not use transparency for market differentiation, as do firms that do not belong to this group. On the other hand, Francis and Yu (2009) emphasize that differences in audit quality can also be observed within the Big 4, depending on the size of individual offices, with audit quality being higher on average in larger offices, which may also lead to differences in transparency reports. Also, Girdhar and Klarskov Jeppesen (2018) identify the existence of differences in transparency reporting practices among Big 4 firms and attribute them to the theory of practice variation, i.e. the influence of multiple institutional environments. They argue that these firms are influenced not only by the institutional environment of their international networks, but also by the national environment of the countries in which they operate, which affects the scope and content of their transparency reports.

Objective and methodology

Although transparency reports have been attracting the attention of the profession and regulators for some time, related academic research is quite limited (Almeida et al, 2022). This is especially the case with the research on transparency reports in developing countries. La Rosa et al. (2019) confirm in their empirical research that higher audit quality at the national level has a positive effect on the scope of information provided by audit firms in transparency reports. However, in countries that do not have a long tradition and maturity in external auditing and where trust in the audit profession has yet to be built, the potential of transparency reports could be significant as a useful tool that would contribute to the affirmation of the profession. On the other hand, there is also a danger that, in line with institutional theory, imposing mandatory transparency reporting makes reports a mere form, without intrinsic value. Our research is specifically focused on the environment of Serbia, as a developing country, where auditing has yet to take the place it has in developed countries, and with the aim of reviewing the current approach to transparency reporting. We pay special attention to the information value of transparency reports in the context of the quality control

system, or more recently, the quality management system, applied by audit firms in Serbia.

Based on an insight into the publicly available Register of Audit Firms maintained by the Chamber of Certified Auditors, there are currently 77 registered audit firms in Serbia. However, according to the Law on Auditing ("Official Gazette of the Republic of Serbia", No. 73/2019), only firms that perform audits of public-interest entities are obliged to prepare and make annual transparency reports available to the public no later than four months after the end of the calendar year, which is in line with EU regulations. In addition, the Law on Auditing requires that in addition to disclosing the reports on the websites of audit firms, they must also be available on the website of the Chamber of Certified Auditors.

The sample included reports for 2022 and 2023, because at the time of data collection, the deadline for submitting reports for 2024 had not expired. Collecting reports for two comparative years enabled a comparison of reports not only between audit firms, but also over time, which was particularly important, since professional regulations regarding quality standards had changed in the meantime. In the first step, transparency reports available on the Chamber's website were collected. In order to overcome the potential problem of non-publication of reports on the Chamber's website, the authors also visited the websites of audit firms to ensure the completeness of the sample. It was found that six reports for 2022 and eight reports for 2023 were exclusively available on the websites of the relevant audit firms. Also interesting is the finding that one audit firm published a report on a voluntary basis, although it did not audit public interest entities. Such a practice can be considered desirable, as it allows the audit firm to emphasize its commitment to transparency and quality, which can positively affect its potential to expand its client portfolio. Given that there is no publicly available list of public interest entities in Serbia, nor a list of audit firms that audit them, it cannot be determined whether some audit firms that were required to publish transparency reports avoided doing so. However, such cases may occur (Pivac, Čular, 2012; Čular, 2017) and affect the conclusions on transparency. The sample included 51 reports, of which 25 were published for 2022 and 26 for 2023. In both observed years, 23 audit firms published reports, while two firms published only for 2022, and three only for 2023. The research thus included 28 audit firms. Table 1 provides a comprehensive overview of the available transparency reports by type of audit firm that published the report, as well as the total number of public interest entities covered by the available reports for each year. We note that we have classified audit firms based on the insight into the Register of Audit Firms, as Article 66 of the Audit Law stipulates that the register must, among other things, contain data on network membership.

Table 1. Characteristics of the analyzed sample

Year	Number of transparency reports (not available on the Chamber's website)				Number of public interest entities
	Big 4	Audit firms that are members of a global or international network	Domestic audit firms	Total	
2022	4	12 (5)	9 (1)	25	679
2023	4	12 (5)	10 (3)	26	765

Source: Author's research.

After obtaining all available transparency reports, further research was based on the analysis of the content of the transparency report segments related to the system of quality control (SOQC) and quality management (SOQM). In order to achieve the objective of the paper, a comparative content analysis was conducted between audit firms, but also within each firm over the two analyzed years.

Results of the work with discussion

Analysis of the content of the transparency reports, with particular reference to information on quality systems, found that the majority of audit firms still apply ISQC 1 and operate within the framework of a quality control system, while five firms in 2022 and eight in 2023 switched to a new quality management system. The results obtained indicate an unfavorable institutional environment, which is reflected in the delay in adopting new quality management practices. This situation can, on the one hand, be attributed to the lack of translation of relevant standards, while, on the other hand, it may be an indicator of limited interest of audit firms in proactively implementing a new approach to quality in the absence of regulatory pressure. The second assumption is supported by the findings presented in Table 2, which show the application of SOQM by type of audit firm in 2023.

Table 2. Implementation of quality management systems in 2023

	Number of audit firms	Number of audit firms that have implemented SOQM
Big 4	4	4
Audit firms that are members of a global or international network	13	4
Domestic audit firms	9	0

Source: Author's research.

As expected, the Big 4 have implemented SOQM. A third of audit firms that are members of international or global networks have also shown a willingness to adopt the more demanding SOQM, which is partly a result of the availability of resources and expertise that their networks make available to them. On the other

hand, no domestic audit firm has changed its approach, and it is obvious that the integration of SOQM into audit practice in Serbia can only be expected when the legal requirements are met, i.e. when an official translation is provided and the new regulation becomes mandatory. In order to provide a relevant comparison, the analysis continued by classifying audit firms into two groups. The first group consists of audit firms that apply SOQC, while the second group includes firms that have switched to SOQM. Within the first group, the research findings indicate that the transparency reports of domestic audit firms contain a significant amount of unoriginal, templated content related to SOQC. Namely, firms most often start by listing the elements, followed by descriptions that largely reflect the formulations of the standards. At the same time, a comparison of the 2022 and 2023 reports does not show significant differences in the content of information on the quality system. However, the consistency in reporting is not the result of a perfectly established system, but rather that quality control systems were established primarily to meet regulatory requirements, rather than as a result of a commitment to quality improvement, which also explains the limited information disclosed by firms. In particular, policies and procedures are in place, and some firms also highlight the existence of a Quality Control Rulebook.

However, the lack of a detailed description of the system raises concerns about its actual effectiveness and undermines the purpose of the transparency report. According to the findings of the FRC (2019), report users expect a balanced SOQC self-assessment, which would allow them to understand how firms identify and resolve quality-related issues. In their study, Aydemir et al. (2023) identified the uniformity effect as an obstacle to reducing information asymmetry in a sample of 612 transparency reports published in Turkey between 2013 and 2020.

Although domestic audit firms are mostly reluctant to disclose detailed information about their quality control systems, and no positive conclusions can be drawn about the potential of transparency reports to signal audit quality, a small number of firms can still be identified that stand out by providing significantly more information about their quality control systems. Their disclosures go beyond a mere repetition of guidelines from the standards, offering in some aspects more detailed descriptions of policies and procedures within each element of the system. However, even for these firms, the specific content of the reports is modest and identical in the observed years, so that one cannot speak of a greater informative value of the reports in terms of SOQC.

When it comes to audit firms that are members of global or international networks, and belong to the first group in the analysis, i.e. those that have not yet implemented SOQM, the situation in terms of transparency is similar to domestic audit firms. These findings indicate that membership in an international network does not necessarily guarantee greater transparency, since audit firms' transparency reports, as shown by previous empirical studies (Girdhar, Klarskov

Jeppesen, 2018; La Rosa et al., 2019), are influenced not only by the network, but also by the institutional environment of the countries in which they operate. Therefore, the tendency towards template reporting can be explained by the lack of market pressure in terms of quality due to the underdeveloped capital market in Serbia, but also by the clear market positioning of certain firms, especially the Big 4. The reasons given are equally relevant for domestic audit firms, which additionally face the challenge of limited resources for implementing new solutions. A total of eight firms have adapted their system to the new quality management standards and disclosed information about this in their 2023 transparency reports. However, certain similarities and differences can be observed in their quality reporting. Namely, the reports of audit firms outside the Big 4 network structurally follow the mandatory report elements defined by the Audit Law, clearly demonstrating a significantly higher level of transparency in the description of quality management compared to the previously analyzed group of firms. In contrast, the Big 4 reports are not strictly formatted, but contain all the information prescribed by the regulations, and even more. The different tone is also a consequence of the inclusion of special paragraphs before the description of the quality system, which emphasize the commitment to quality, work in the public interest and continuous adaptation to changes in the environment in order to preserve quality. For example, EY emphasizes the Next Wave strategy designed for rapid adaptation to changes in the environment, PWC places special emphasis on the Quality Management Framework to achieve business excellence, while KPMG emphasizes a global approach to the quality management system. Deloitte emphasizes a commitment to audit quality through investment in resources and tools to improve quality and continuous adaptation to economic, business and regulatory conditions. The Big 4 often use terms such as “strategic commitment” to signal their proactive and long-term commitment to quality through innovation and investment.

An analysis of the content of the transparency reports of the eight firms shows that all of them emphasize that frameworks, rulebooks or manuals have been established at the network level for all members, which are adapted to the characteristics of the environment in which the members operate. In addition, member companies have access to policies, technologies, strategies and programs that they can use when designing and implementing their quality management systems. In fact, the availability of these resources and the need for harmonized policies and procedures at the network level have resulted in the implementation of new standards by members in Serbia despite the lack of translation. Reliance on policies and procedures defined at the network level signals a potentially higher quality of service, given that parent companies are generally located in environments with stricter regulatory requirements and more developed capital markets. Moreover, these firms emphasize that within the framework of global quality monitoring programs it is not enough to simply monitor the system in

order to identify deficiencies, but also requires an analysis of the root causes of these deficiencies. Understanding why deficiencies occur is crucial for taking corrective measures.

Since ISQM represents a significant step forward, especially by introducing a new element - the risk assessment process within the system, we have analyzed the disclosures on this element in particular. For example, Deloitte emphasizes that the implementation of the new approach provides them with an opportunity for self-evaluation through continuous identification of areas for improvement. In addition, regardless of the fact that there are developed quality objectives, risks and responses at the network level, each member emphasizes in its report that they are adapted to its environment and types of engagements, thus preventing a mere formal adoption of the network framework. One aspect that could certainly contribute to a greater degree of transparency in this area, which was absent in the analyzed reports, is a more explicit emphasis on the defined quality objectives, while providing specific examples of risks and responses. Based on the above, it can be concluded that there is room for content more tailored to the individual characteristics of each company, as well as the need to improve the reporting approach in order to provide a more balanced perspective that reflects real performance, and not only positive aspects.

Conclusion

The analysis of transparency reports of audit firms in Serbia, with a special focus on the disclosure of information on quality control systems, i.e. quality management, enabled the assessment of progress in the transition to the new regulation in the field of quality management. The results of the content analysis show that only a minority of audit firms have implemented SOQM, since its implementation in Serbia is still not mandatory until the translation of the new standards is completed. This creates a gap in the implementation of professional standards and advanced practices in the Serbian environment. The findings also indicate that the level of transparency in the analyzed reports is not high due to the excessive use of template language and unbalanced reporting that favors positive information. However, some reports stand out for their detailed descriptions and content tailored to the specifics of specific firms.

It is evident that the potential of transparency reports as an indicator of quality has not yet been fully utilized. Although previous research on transparency has focused mainly on developed countries, this paper contributes to the knowledge base on audit firm transparency in developing countries, which is particularly important given the role that transparency can play in the affirmation of the profession. Regulators could benefit from these findings by directing additional efforts towards promoting and improving the informative content of reports. Practitioners, on the other hand, may recognize an opportunity to differentiate

themselves in the market through a commitment to transparency and investment in quality systems. Future research could include a longer observation period, especially in relation to the implementation of SOQM, as well as a more detailed analysis of the entire content of reports. In addition, it is necessary to encourage the implementation of empirical qualitative and quantitative studies that analyze the relationship between audit quality and audit firm transparency.

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THE SIGNIFICANCE OF REAL GDP GROWTH FOR THE INSURANCE DEVELOPMENT

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Abstract

Insurance has a growing economic and social importance since risks are also very dynamic category. Remediation of damages due to the realization of the risk is imperative because any delay in compensation has additional negative effects. Insurance is a mechanism that compensates and repairs damages in the most efficient way. It can be seen as a consequence but also a lever of economic development. In this article, insurance is being considered as a consequence of economic development. In this regard was performed an analysis of the importance of real GDP growth on the development of the insurance market in OECD member countries. Therefore, three hypotheses assumes the dependence between real GDP growth, gross direct insurance premiums per capita and insurance penetration. A correlation analysis has been conducted to examine the aforementioned dependencies, and the results were interpreted by analyzing the Pearson correlation coefficient. All three hypotheses were proven, with two strong and positive correlations and one moderately positive correlation.

Keywords: *real GDP growth, gross direct insurance premium per capita, insurance penetration, OECD*

JEL: *G22, G52, O52*

Introduction

Insurance has an extremely important role in modern living and business conditions. The number of risks faced by individuals and economic entities is constantly increasing. In addition to new risks, big problem is the growing

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realization trend of existing risks. The possible realization of risks can cause losses that are sometimes irreparable. (Pearson, 2012). Individuals may lose their assets while businesses companies may disappear from the market. (Diakonidze, 2021; Kelejian et al., 2013). This can have consequences not only on the personal level of individuals, but the entire society can bear the costs of the company's closure. (Kuter et al., 2020). Since employees will lose their jobs, there will be a decline in employment, a rise in dissatisfaction, and a growing distrust.

The intensification of risks realization leads to greater and greater damages that can leave incalculable consequences on GDP growth. This is especially pronounced in countries that are exposed to numerous natural disasters that results in a huge economic and insured losses. If the damages are such that requires a lot of time and financial resources for compensation, the consequences will be also reflected in the GDP decline (Ruiz et al., 2015). Therefore, insurance is necessary because it has proven to be the most effective mechanism for repairing damages. It is widely believed that insurance is a consequence but not the driver of economic development (Baranoff et al., 2013; Franzén et al., 2024). Nevertheless, bearing in mind the effects of insurance on economic development, it is clear that it can also be considered as a lever of economic development (Chiang & Chang, 2012). Despite all this conclusions, numerous studies shows that the development of insurance is conditioned not only by economic development but also by the development of individual consciousness. In developed countries, this consciousness is much more developed than in underdeveloped and developing countries. However, this difference is decreasing in the last decade.

Regardless of the economic importance of insurance, it should be emphasized that its basic functions are: protection, mobilization and allocation of financial resources and a social function (Zweifel & Eisen, 2012). The implementation of these three functions indirectly affects economic development. Although it can be considered as a business arrangement, there are differences, since insurance is actually an investment without an expected return (Alhamid et al., 2024). In this sense, insurance can be considered as an arrangement in which neither of contracting party does not want risk realization.

Real GDP growth in OECD countries

Starting from the definition of gross domestic product as the value of all goods and services produced in a certain period of time, it is clear that it is vital for every country to ensure its continuous growth (Watanabe et al., 2018). The connection between GDP growth and economic well-being has been emphasized several times. The following table presents the percentage change in GDP from 2015 to 2023 in several OECD members.

Table 1. Real GDP growth (2015-2023)

States	Years								
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Luxembourg	2,27	4,98	1,32	1,61	2,75	-0,51	6,93	-1,09	-0,69
USA	2,95	1,82	2,46	2,97	2,58	-2,16	6,05	2,51	2,89
UK	2,22	1,92	2,66	1,40	1,62	-10,3	8,58	4,84	0,39
Sweden	4,39	2,13	1,88	1,77	2,61	-1,93	5,23	1,26	-0,20
South Korea	2,92	3,17	3,43	3,18	2,31	-0,70	4,61	2,73	1,58
Denmark	2,10	3,07	3,06	1,86	1,71	-1,78	6,50	0,44	0,60
France	1,07	0,86	2,08	1,65	2,03	-7,44	6,88	2,72	1,44
Netherlands	2,12	2,42	2,78	2,26	2,30	-3,88	6,28	5,01	-0,60
Japan	1,56	0,75	1,67	0,64	-0,40	-4,17	2,70	0,93	1,39
Switzerland	1,64	2,07	1,36	2,86	1,14	-2,14	5,56	3,04	0,68
Italy	0,88	1,24	1,60	0,83	0,43	-8,87	8,93	4,82	0,71
Belgium	1,47	1,19	1,47	1,88	2,44	-4,79	6,21	4,26	1,20
Norway	1,86	1,16	2,46	0,83	1,12	-1,28	3,91	3,25	0,07
Germany	1,66	2,29	2,71	1,12	0,99	-4,10	3,67	1,37	-0,26

Source: Authors, based on OECD reports, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023

According to the data in the table 1, all countries achieved positive GDP growth rates in almost every year. Due to the COVID-19 pandemic in 2020, there is a negative growth rate, i.e. GDP decline in all countries. The biggest decline (10.30%) was measured in the United Kingdom. Decline rates higher than 7% were achieved in Italy and France, 8.87% and 7.44%, respectively. By 2020, all growth rates were positive, with the exception of Japan in 2019. In the period before the COVID-19 pandemic, the highest GDP growth rate was in Luxembourg in 2016 (4.98%), while the GDP growth rate in Sweden in 2015 was at the level of 4.39%. Record GDP growth rates were achieved in 2021, which was expected given the negative GDP decline rates in 2020. The highest growth rates were achieved in the countries that experienced the largest decline in GDP in 2020. In this sense, the United Kingdom, France and Italy should be singled out again, with GDP growth rates of 8.58%, 6.88% and 8.93%, respectively. In the 2022, the GDP growth rates were positive and consolidated in almost all countries, with the exception of Luxembourg (-1.09%). Looking at the initial and

final year of the observed period, it is noticeable that GDP growth rates in 2023 are not positive in all countries. It is also evident that growth rates in 2023 are lower than in 2015 in almost all countries. The biggest difference is in Sweden, while only in France is the GDP growth rate in 2023 higher than in 2015.

Gross direct insurance premiums per capita in OECD countries

The insurance premium is an element but also a prerequisite for premium insurance (Delcours & Zhong, 2007). Insurers are motivated to pay premiums because they gain the right for damages compensation whose value will be multiple than the total value of premiums (on a multi-year basis) (Damodaran, 2019; Myers & Read, 2001). This indirectly enables savings for insurers who have suffered damages, making insurance cost-effective (Outreville, 2012). The premium is determined for each insurer separately, and is determined by the level of insurer risk (Olufunmilayo, 2019). The gross premium represents the total premium that each insurer must pay in order to be entitled to insurance benefits. It consists of the overhead allowance and the net premium (Zweifel & Eisen, 2012).

The values of gross premiums per capita vary depending on the level of development of the insurance market. Globally, those differences can be multiple and even by ten times (Alemany & Guillén, 2013; Thorsten & Webb, 2003). The following table represents gross direct insurance premiums per capita (2015-2023) in OECD member countries. In addition, it should be kept in mind that the values of premiums per capita are primarily determined by the standard of living (Thakor, 1996).

Table 2. Gross direct insurance premiums per capita in thousands of USD (2015-2023)

States	Years								
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Luxembourg	37.51	35.10	41.04	40.67	43.26	36.15	51.84	40.74	34.55
USA	6.31	6.50	6.72	7.09	7.50	7.90	8.56	9.28	9.90
UK	4.59	3.95	5.12	5.67	5.05	4.59	5.34	5.18	5.78
Sweden	3.96	3.79	4.25	4.65	4.57	5.16	6.81	6.22	5.89
South Korea	3.42	3.43	3.48	3.51	3.53	3.63	3.82	3.79	3.53
Denmark	5.61	5.69	6.31	6.84	6.49	6.91	7.85	7.02	7.05
France	3.55	4.10	4.24	4.56	4.45	4.05	4.81	4.39	4.72
Netherlands	2.18	4.53	4.63	4.97	4.86	5.03	5.29	4.77	5.18
Japan	2.38	3.23	2.84	2.97	2.98	2.89	2.79	2.44	2.54

Switzerland	7.46	7.03	6.90	6.96	6.88	6.65	6.68	6.46	6.70
Italy	2.71	2.47	2.46	2.67	2.62	2.58	2.79	2.30	2.37
Belgium	2.65	2.61	2.65	2.90	2.85	2.74	3.24	2.99	3.25
Norway	3.97	3.97	3.86	4.13	4.12	3.96	5.08	4.68	5.01
Germany	2.59	2.60	2.84	3.05	3.09	3.23	3.42	2.89	2.99

Source: Authors, based on OECD reports, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023

According to the data in the table 2, it is evident that gross insurance premiums per capita are the highest in Luxembourg. The record value was achieved in 2021, when gross insurance premiums per capita amounted to 51.84 thousand of USD. After that, a decline was recorded in 2022 and 2023, with gross insurance premiums per capita in 2023 being lower than in 2015. It should be noted that the USA had an increase of the value of gross insurance premiums per capita in every year of the observed period. Thus, in 2023, they are almost 3.6 thousand of USD higher than in 2015. This makes the USA the only country with the constant growth of gross insurance premiums per capita. Overall, in most countries there was a significant increase in gross insurance premiums per capita in the last year compared to the first year of the observed period. This should be certainly attributed not only to the increasing living standard, but also to the growing trust in institutions on the insurance market. It is interesting to emphasize that in Luxembourg, as a country with by far the highest gross insurance premiums per capita, there was a decrease of the value in the last year compared to the first year of the observed period. Beside Luxembourg, such a trend was realized also in Italy and Switzerland.

Insurance penetration in OECD countries

Insurance penetration is the ratio of gross insurance premiums to gross domestic product (Vimala & Alamelu, 2018). This ratio indicates the relative importance of insurance in the national economy. (Devindra et al., 2023). Insurance penetration seems to be at the forefront and center of most current discussions about the global insurance development.

Numerous studies shows that economically developed countries are also countries with significant insurance penetration (Arena, 2008; Martin & Luhn, 2010). This enables the fastest possible reaction and remediation of potential damages, which will have additional benefits for economic development. In the underdeveloped countries, situation is completely different, because the insurance markets lag significantly not only in relation to developed economies, but also to the world average. This further complicates the economic prosperity. It should be emphasized that in the 21st century, natural disasters most often affected countries with low insurance penetration (Alhassan, 2016). Since insurance is the most

effective mechanism for damages compensation, these consequences are still repaired (Martin & Luhn, 2010). On the other hand, in countries with high insurance penetration, the consequences are repaired much faster and more efficiently (Luke, 2021). Therefore, high insurance penetration is a goal to strive for because it has multiple positive effects (Ward & Zurbrugg, 2000). The following table presents the share of gross insurance premiums in GDP in OECD member countries.

Table 3. Insurance penetration - percentage of GDP (2015-2023)

States	Years								
	2015	2016	2017	2018	2019	2020	2021	2022	2023
Luxembourg	35,15	32,05	36,92	34,48	38,01	30,71	38,47	32,19	26,63
USA	11,06	11,17	11,14	11,22	11,45	12,27	12,06	12,02	12,14
UK	10,22	9,64	12,62	13,12	11,82	11,42	11,43	11,38	11,79
Sweden	7,77	7,38	8,02	8,62	8,87	9,83	11,17	11,29	10,63
South Korea	11,89	11,74	11,02	10,49	11,06	11,43	10,89	11,69	10,62
Denmark	10,52	10,42	10,95	11,13	10,90	11,32	11,23	10,26	10,28
France	9,35	10,72	10,60	10,63	10,65	9,99	10,62	10,31	10,18
Netherlands	4,74	7,90	9,32	9,19	9,04	9,40	8,77	8,01	8,01
Japan	6,72	7,61	7,34	7,66	7,27	7,12	7,09	7,90	7,99
Switzerland	8,85	8,50	8,36	8,14	8,15	7,71	7,12	6,90	6,67
Italy	8,86	7,90	7,53	7,65	7,79	8,09	7,69	6,56	6,18
Belgium	6,45	6,21	5,99	6,09	6,10	6,01	6,22	5,96	6,03
Norway	5,32	5,62	5,08	5,01	5,40	5,80	5,47	4,32	5,71
Germany	6,32	6,18	6,36	6,36	6,60	6,92	6,65	5,94	5,68

Source: Authors, based on OECD reports, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023

According to the data in the table 3, it is noticeable that Luxembourg has by far the largest share of gross insurance premiums in GDP. In almost every year, it is significantly higher than 30%, with the exception of 2023 when this share was below 30%. In 2023 share of gross insurance premiums in GDP was higher than 10% in 7 countries (Luxembourg, USA, UK, Sweden, South Korea, Denmark and France). It should certainly be noted that participation in all countries is at a very high level, because in 2023 only Germany and Norway had less than 6%, which is still significantly above the world average.

If we look at the first and last year of the observed period, it can be noted that not all countries had an increase of the share of gross insurance premiums. Out of a total of 14 countries, growth in participation was achieved in the USA, UK, Sweden, France, Netherlands, Japan and Norway, which is half of those listed in Table 3. In addition, the decline in participation was also realized in 7 countries (Luxembourg, South Korea, Denmark, Switzerland, Italy, Belgium and Germany). The highest growth in the share of gross insurance premiums was achieved in the Netherlands, since the share in 2023 was 8.01%, which is 3.27% more than in 2015. Italy should also be singled out because the participation in 2023 exceeded the participation in 2015 by 2.86%. However, the record change in participation is also negative and refers to Luxembourg, since in 2023 the participation decreased by 8.52%.

Research methodology

The aim of this research is to determine the dependence between several variables, so the adequate and most effective measures can be used to strengthen the insurance market. Therefore, changes in real GDP, insurance penetration, ie. share of gross insurance premiums in GDP as well as gross direct insurance premiums per capita will be subject to statistical analysis. In that sense correlation analysis will be used to determine the degree of mutual dependence between them and the strength of those connections.

One of the measures of correlation is Pearson's correlation coefficient:

$$r_{xy} = s_{xy}/s_x s_y \tag{1}$$

whereby

s_{xy} – covariance

s_x^2 – variance of the first feature

s_y^2 – variance of the second feature

$$s_{xy} = \sum x_i y_i / n - x_j y_j \tag{2}$$

$$s_x^2 = \sum x_i^2 / n - x_j^2 \tag{3}$$

$$s_y^2 = \sum y_i^2 / n - y_j^2 \tag{4}$$

x_j – values of the first feature

$$x_j = \sum x_i / n \tag{5}$$

y_j – values of the second feature

$$y_j = \sum y_i / n \tag{6}$$

n – sample size

For the purposes of proving the dependence between the mentioned variables, three hypotheses will be formulated:

H_1 – The gross direct insurance premiums per capita depends on the real GDP growth

H_2 – Insurance penetration depends on the gross direct insurance premiums per capita

H_3 – Insurance penetration depends on the real GDP growth

Results and discussion

Correlation analysis was performed to test hypothesis H_1 that is, dependence of gross direct insurance premiums and real GDP growth. The relationship was interpreted by the Pearson correlation coefficient. Before that, preliminary analyzes were performed in order to prove the fulfillment of assumptions about normality, linearity and homogeneity of variance. The results of the correlation analysis are presented in Table 4.

Table 4. Correlations

		Gross insurance premiums per capita	Real GDP growth
Gross insurance premiums per capita	Pearson Correlation	1	.557
	Sig. (2-tailed)		.047
	N	136	136
Real GDP growth	Pearson Correlation	.557	1
	Sig. (2-tailed)	.047	
	N	136	136

Source: Author's calculation in SPSS

A strong positive correlation was calculated between gross direct insurance premiums per capita and real GDP growth, since $r = 0,557$, $n = 136$, $p < 0,05$. Therefore, hypothesis H_1 can be accepted, i.e. real GDP growth follows the growth of direct insurance gross premiums per capita and vice versa, real GDP decline follows the decline of direct insurance gross premiums per capita.

Correlation analysis was also performed to test hypothesis H_2 that is, dependence of insurance penetration and gross direct insurance premiums per capita. The relationship was interpreted by the Pearson correlation coefficient. Before that, preliminary analyzes were performed in order to prove the fulfillment of assumptions about normality, linearity and homogeneity of variance. The results of the correlation analysis are presented in Table 5.

Table 5. Correlations

		Insurance penetration	Gross insurance premiums per capita
Insurance penetration	Pearson Correlation	1	.367
	Sig. (2-tailed)		.038
	N	136	136
Gross insurance premiums per capita	Pearson Correlation	.367	1
	Sig. (2-tailed)	.038	
	N	136	136

Source: Author's calculation in SPSS

A medium positive correlation was calculated between insurance penetration and gross direct insurance premiums per capita, since $r = 0,367$, $n = 136$, $p < 0,05$. Therefore, the hypothesis H_2 can be accepted, i.e. the growth of gross insurance premiums per capita follows the growth of insurance penetration and vice versa, the decrease of gross insurance premiums per capita follows the decrease of insurance penetration.

As in the case of the previous two hypotheses, correlation analysis was also performed to test hypothesis H_3 that is, dependence of insurance penetration and real GDP growth. The relationship was interpreted by the Pearson correlation coefficient. Before that, preliminary analyzes were performed in order to prove the fulfillment of assumptions about normality, linearity and homogeneity of variance. The results of the correlation analysis are presented in Table 6.

Table 6. Correlations

		Insurance penetration	Real GDP growth
Insurance penetration	Pearson Correlation	1	.694
	Sig. (2-tailed)		.021
	N	136	136
Real GDP growth	Pearson Correlation	.694	1
	Sig. (2-tailed)	.021	
	N	136	136

Source: Author's calculation in SPSS

A strong positive correlation was calculated between insurance penetration and real GDP growth, since $r = 0,694$, $n = 136$, $p < 0,05$. Therefore, the hypothesis H_3 can be also accepted, i.e. real GDP growth follows the growth of insurance penetration and vice versa, the real GDP decline follows the decrease of insurance penetration.

Conclusion

Insurance has exceptional increasing importance in modern business conditions and life in general. It is the most effective mechanism for damages compensation.

The speed and efficiency of damages reparation have influence on the all aspects of social life. Inefficient and slow reparation can leave long-term and multiple consequences not only on individuals but also on the economy. The cessation of business operations due to the realization of some risk (fire, flood, earthquake, etc.) affects the existence of employees but also the entire economy. Therefore, insurance in this sense is necessary, because it is a mechanism that will enable a quick and efficient reaction. Regardless of this fact, it cannot be claimed that insurance is equally and globally developed. The fact that insurance can be a lever for economic development is often overlooked.

This article analyzes the dependence between three variables: real GDP growth, gross direct insurance premiums per capita and insurance penetration. Therefore, three hypotheses were formulated and proved. Real GDP growth will affect the growth of gross direct insurance premiums per capita. If GDP growth is interpreted as a parameter of economic development, it is clear that citizens in developed countries will be willing to allocate more funds for insurance. The results of the correlation analysis shows that the growth of real GDP is followed by the increase of insurance penetration. In addition to real GDP growth, insurance penetration is conditioned by the growth of gross direct insurance premium per capita, which again depends on real GDP growth. This proves the importance of GDP growth on the development of the insurance market.

The fact that only OECD member states were analyzed is also a limitation of this research. It would be challenging to implement an analysis that will include many more countries as well as more economic indicators. Also, in addition, a comparative analysis of developed, developing and underdeveloped countries would probably show interesting results. Considering the importance of real GDP growth on the development of the insurance market, this article examines insurance as a consequence of economic development. Therefore, the economic policy makers must be aware that economic developments will have multiplied effects that are reflected, among other things, in the development of the insurance market. Also, the subject of some of the following analyzes may be the economic impact of the development of the insurance market. All of the above points to the inextricable connection and dependence of economic development and the development of the insurance market.

Acknowledgements

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Nikola Nikolić⁴⁵, Petar Petrović⁴⁶, Marko Marković⁴⁷

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Tabela 5. Troškovi distribucije dobara iz Subotice u maloprodajne objekte

Indikatori	Period			Ukupno
	Mesec 1	Mesec 2	Mesec 3	
Pređena razdaljina (km)	12.926	11.295	13.208	37.429
Korišćeno gorivo (litar)	3.231	2.823	3.302	9.356
Vrednost korišćenog goriva (RSD)	242.378	211.790	247.653	701.821
Ukupno provedeno vreme u vožnji (sati)	314	266	417	997
Vrednost ukupno provedenog vremena u vožnji (RSD)	47.048	39.890	62.570	149.508
Broj vožnji	98	77	102	277
Ukupna vrednost (RSD)	0	0	0	0
Broj preveženih paleti (komad)	1.179	976	1358	3.513
Ukupna prevežena količina (kg)	602.600	429.225	711.116	1.742.941
Suma (RSD)	974.222	870.864	1.100.813	2.945.899

Izvor: Nikolić, 2010;

Napomena: Vrednosti u tabeli ne sadrže porez na dodatu vrednost (PDV)

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Literatura

1. Nikolić N., M. Marković, i P. Petrović. 2016. Poreski bilans. *Oditor* 2, (1): 13-17.

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Nik Holmes⁴⁸, John Peters⁴⁹

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Table 5. The distribution cost

Indicators	Period			Total
	2013	2014	2015	
Fixed costs	12.926	11.295	13.208	37.429
Variable costs	3.231	2.823	3.302	9.356

Source: Nikolic, 2016;

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Literature

1. Vall J. 2014. Accounting theory. Valid, New York.
- Parks D., W. Robberts. 2016. Macroeconomic indicators. Finance 23, (4): 462-476.