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Reč urednika

Geopolitička situacija u svetu danas je obeležena brojnim izazovima i promenama. Jedan od najvažnijih faktora je rastuća napetost između velikih sila, koje se takmiče za globalni uticaj, što se ogleda u trgovinskim ratovima, tehnološkom rivalstvu i vojnom jačanju.

Globalni izazovi poput klimatskih promena, migracija, terorizma i pandemije COVID-19 dodatno komplikuju geopolitičku situaciju, zahtevajući međunarodnu saradnju i koordinaciju. Međutim, rastuće nacionalističke tendencije i unilateralne politike mnogih država često otežavaju postizanje globalnog konsenzusa.

Prvi rad, autora Constantinosa Challoumisa, razmatra brzine minimalnog bega u vezi sa finansijskom likvidnošću. Ovo podrazumeva da se ispituje ponašanje novčanog ciklusa u normalnim okolnostima, uzimajući u obzir brzinu minimalnog nivoa kojim su upravljane rezerve gotovine i ubrzanje novčanog toka. Kao rezultat toga, novčani ciklus određuje kako ekonomija funkcioniše.

Drugi rad koji nosi naziv “Veštačka inteligencija i digitalna transformacija u funkciji poslovanja”, autora Nebojše Denića, Ivane Bulut Bogdanović i Momira Milića razmatra najnovija istraživanja iz aktuelne oblasti masovne primene veštačke inteligencije i Industrije 4.0, kroz prizmu uticaja na digitalnu transformaciju i digitalne kompetencije ključnih korisnika u poslovanju. Poslednjih godina se razvija posebna vrsta elektronske, odnosno digitalne valute, koja je poznatija pod imenom kriptovaluta. Sve češća upotreba kriptovaluta u svetu dovodi do mnogih novih mogućnosti u svetu elektronske trgovine, i formiranja potpuno novog, decentralizovanog sistema plaćanja. Stepen primenjivosti kriptovaluta na svetskom nivou varira od države do države. U nekim razvijenijim državama kriptovalute polako postaju regularan sistem plaćanja roba i usluga, tako da većina sajtova nudi mogućnost plaćanja u kriptovalutama. U našoj državi, taj sistem još uvek nije toliko razvijen i ne postoji mnogo prodavaca koji primaju kriptovalutu kao naknadu za prodatu robu, navode autori trećeg rada, Marko Savić, Nikola Pavlović, Aleksandar Stanković.

Četvrti rad, autora, Milana Mihajlovića, Aleksandara Savića, bavi se problematikom Energetske bezbednosti, navodeći da je od suštinskog značaja za održivi ekonomski razvoj i stabilnost zemlje. Poslednjih godina ona se aktivno proučava. Izazovi energetske bezbednosti evropskih zemalja značajno su se promenili u prethodnih 20 godina. Sa jedne tačke gledišta, trenutni ratni sukob između Rusije i Ukrajine izaziva sumnju u energetsku bezbednost zemalja Jugoistočne evrope. Sa druge strane, duboke promene u okviru energetske bezbednosti na svetskom nivou, aktivirane inovativnim napretkom i velikim geopolitičkim promenama, podstiču Evropsku uniju da revalorizuje svoj sistem bezbednosti. Sledeći rad, metodologa Milovana Vukovića i Dejana Dašića, razmatra neke od metoda koje se koriste za prikupljanje kvantitativnih i kvalitativnih informacija radi što preciznijeg definisanja problemske situacije u odnosima s javnošću. Primarna svrha istraživanja u odnosima s javnošću, kao i u drugim poslovnim funkcijama, jeste smanjenje neizvesnosti u donošenju odluka. Rad prvo ispituje mesto istraživanja u različitim modelima odnosa s javnošću. Zatim objašnjava prvu fazu procesa upravljanja odnosima s javnošću - analizu situacije - gde se istraživačke aktivnosti posebno ističu. Drugi deo rada fokusira se na metode, kako formalne tako i neformalne, koje se često koriste u praksi odnosa s javnošću. Najnapredniji oblik odnosa s javnošću predstavljen je naučno vođenim procesima rešavanja organizacionih problema i procesima promena.

Autor Radmila Trklja, Boban Dašić, Aleksandar Radović bave se uticajem etike na računovodstvenu i revizijsku profesiju u Srbiji. U poslednjim godinama u modernoj tržišnoj ekonomiji sve se više pažnje posvećuje pitanju poslovne etike, zbog pojave sve većeg broja otkrivenih neetičkih radnji u poslovanju. Računovodstvena i revizijska profesija predstavlja jedno od etički najosetljivijih poslovnih područja. Računovođe i revizori se moraju odupreti pritiscima sa tržišta, pritiscima klijenata koji ih angažuju, čime bi na kvalitetan i pouzdan način prikazivali finansijske izveštaje, štiteći pritom ugled svoje profesije kao i lični ugled. Etičko ponašanje i profesionalizam računovođa i revizora značajno je za procenu verodostojnosti i kvaliteta njihovog rada.

Sedmi rad, autora Miloša Miljkovića, Maje Janjetović, Miodraga Zekića, Ivane Arsić, bavi se Menadžmentom u javnom sektoru, koji predstavlja osnovnu funkciju pozicioniranja i usmeravanja ekonomske i finansijske delatnosti državnih kolektiviteta, odnosno javnog sektora ka izvršavanju postavljenih ciljeva i zadataka radi kojih su i formirani. Prema klasičnim shvatanjima država treba da interveniše u privredi samo kada tržišni mehanizam ne doprinosi optimalno efikasnim rešinjima, s tim da svoje uplitanje u privredi ograniči na sledeće oblasti: sprečavanje monopolskih ponašanja, neutralisanje negativnih eksternih efekata i obezbeđivanje javnih dobara. Poslednji, osmi rad u ovom broju, autora Milijanke Ratković i Milutina Pećića, obrađuje jednu veoma aktuelnu temu, esport tržište, koje otvara mnogobrojne marketinške mogućnosti koje se pre svega ogledaju u njegovim promotivnim kapacitetima. Glavni preduslov odgovarajućem pozicioniranju kroz promociju je poznavanje karakteristika ciljnih grupa esport tržišta. Lako merljivi rezultati ulaganja u esport tržište, mogućnost preciznog targetiranja, kao i sve širi izbor starosnih struktura, čine ovo tržište privlačnim za investitore, sponzore i oglašivače. Promotivni potencijali su prisutni u obliku efekta širenja percepcije o brendu koji sponzoriše ili se oglašava, zatim efekta partnerstva sa influenserima koji dolaze sa ovog tržišta u tradicionalno okruženje, ali i efekta promocije brendova koji se koriste u realizaciji samog e-sporta.

Glavni i odgovorni urednik
dr Boris Siljković, prof. s.s.

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Sadržaj

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MINIMUM ESCAPED SAVINGS AND FINANCIAL LIQUIDITY IN MATHEMATICAL REPRESENTATION

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Abstract: This paper discusses the velocities of the minimum escaped concerning financial liquidity. This implies that the conduct of the money cycle in normal circumstances is examined, considering the velocity of minimal level managed to escape cash reserves and the acceleration of cash flow. As a result, the money cycle determines how the economy works. As a result, it is reasonable to reach conclusions about consumer spending and investment in each economy. A Q.E. approach framework is used for this assessment.

Keywords: cycle of money, mixed savings, financial liquidity

1. Introduction

The issue of savings is a key point in managing an economy. Why is that? The answer comes from the Cycle of Money theory. The answer is that savings do not always have a positive role in an economy. An economy needs savings, as long as they are made within the domestic financial system. If such savings take place outside the domestic financial system, then things are different. The Cycle of Money theory distinguishes between enforcement savings and escape savings. Enforcement savings are savings that keep money within the financial system, and escape savings are those that leave the domestic financial system. The behavior of the money cycle once combined with the velocity of minimum escaped savings and the velocity of financial liquidity is investigated in this paper. This work approaches the attitude of the money cycle and how it works through the Q.E. method, as well as conclusions about consumption and investments in that case. In addition, after analyzing the model, the characteristics of the velocity of minimum escaped savings and the velocity of financial liquidity were discovered. As determined by the minimum escaped savings, the money stays in the country's economy and is not saved in tax havens. Mixed escaped savings, on the other hand, are savings in which some of them remain in the country's economy while others leave to be saved in tax havens (Aakre & Rübbelke, 2010; Ewert, Loer, & Thomann, 2021; Persson & Tinghög, 2020; Swanstrom, Dreier, & Mollenkopf, 2002).

Agreements among both respondents encountered in the process determine how profits and losses are allocated. Contract modifications should be noted in the agreements. That's why the tax office should conduct regular audits. Agreements must be specified regularly to be comparable. The arm's length principle necessitates regular checks of companies involved in financial activities. The cost-sharing is then based strictly on a review process of tested parties' corporates (GVELESIANI, 2019; Kananen, 2012; Marques, 2019; Silva, Silvestre, & Amaral, 2020; Spiel, Schober, & Strohmeier, 2018; Victral, Grossi, Ramos, & Gontijo, 2020). The purpose of governed contract businesses is to deal with taxation issues related to their activities. As a result, the arm's length principle should cover the requirements for firms operating in contracts with tax offices (Arabyan, 2016; Challoumis, 2019a; Johnston & Ballard, 2016; Leckel, Veilleux, & Dana, 2020; Maier, 2012; Martin & Freeland, 2021; Nowlin, Gupta, & Ripberger, 2020; Suslov & Basareva, 2020; Torres Salcido, del Roble Pensado Leglise, & Smolski, 2015). As a result, controlled transaction firms can increase earnings in low-tax contexts while reducing expenses in high-tax situations with the right agreement.

Controlled transaction companies should be informed that the tax department is examining them under the situation of approximately equal modifications (Haskel & Westlake, 2021; Lucchese & Pianta, 2020; Pircher, 2020; Ribašauskiene et al., 2019; Ruiz, Jurado, Moral, Uclés, & Viruel, 2017). The proportional adjustment condition is interpreted as follows: companies that participate in payments regularly lack this same valid information and uncontrolled transactions of similar situations to compare, so they correspondingly adjust their data (Challoumis, 2018b, 2019c, 2021c, 2023b, 2023a). This implies that if the tested groups conclude that the proceeds of businesses from unrestrained transactions are considerably higher or substantially lower, they try comparing them with their data using a commensurate analogy (Adhikari, Derashid, & Zhang, 2006; Miailhe, 2017; Noland, 2020; Ud Din, Mangla, & Jamil, 2016). The output of products or services generates profits and costs:

$$u = s(zf + \tilde{z}d) \tag{1}$$

$$z = |\tilde{z} - 1| \tag{2}$$

The sign u symbolizes the comparability analysis's impact factor, which can be any technique. A coefficient with a value number between 0 and 1 is denoted by the symbol z. The theory's effect on the s determines what value might be received (using the best method rule). The symbol f represents the cost of producing goods, while the symbol d signifies the cost of distributing goods:

$$u_c = zf + \tilde{z}d \tag{3}$$

$$b = (p - u_c) * j_1 \tag{4}$$

In the preceding equation, the symbol b represents the amount of taxation that should be paid by the company engaged in financial activities under the arm's length principle. The factor of tax liabilities that can be overlooked by assigning profits and losses is known as the u_c. In addition, j_1 is indeed the tax rate ratio.

$$v = p * j_2 \tag{5}$$

The denoted v in the preceding formula represents the tax rates that should be paid by controlled payment businesses when the fixed length concept is applied (Challoumis, 2019b, 2020b, 2020a, 2021b, 2021a, 2022c, 2022a, 2023c). Then, in the particular instance of the fixed length principle, j_2 is indeed a tax rate ratio:

$$v \geq b \tag{6}$$

The tax on corporates that take part in transfer pricing controlled transactions under the fixed length criterion is higher or equal to the tax on businesses that take part underneath the arm's length concept (Abate, Christidis, & Purwanto, 2020; AICPA, 2017; Bartels, 2005; Fernando, 2022; Hussain, Mehmood, Khan, & Tsimisaraka, 2022; Leimbach, Kriegler, Roming, &

Schwanitz, 2017; Mohindra, 2007; OECD, 2020; Oueslati, 2015; Stone, 2008) As a result of the fixed length essence, managed money transfer enterprises can address the profitability issues presented. As a result, the tax department must deal with the effects of transfer pricing on worldwide tax revenue.

It is a completely theoretical case study to represent the difference between the two cases. The following section discusses the money cycle theory. The methodology is the Q.E. technique and its econometric approach.

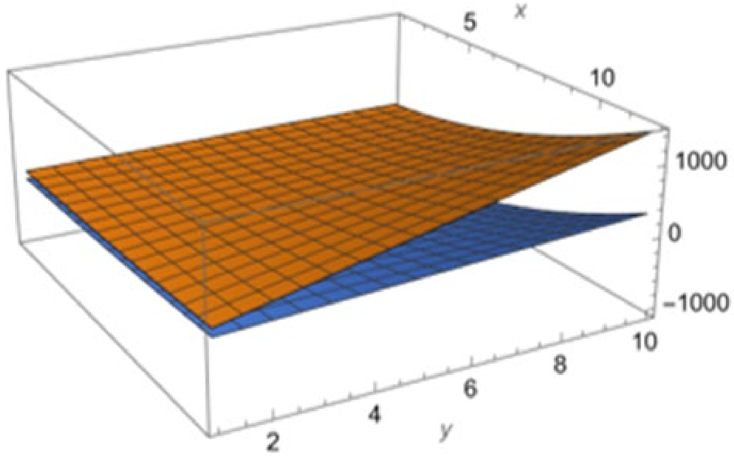

Figure 1: Fixed length principle and Arm's length principle

Fig. 1 depicts the operation of the fixed length theory and its amount assessment for defining the model's behavior. The brown color represents the case where the fixed length is applied, and the blue line is the arm's length principle, for the case where p is represented by a case study of $v = x^2 * j_2$, and b= $(x^2 - u_c) * j_1$.

2. Lterature Review

A state's public sector includes the central government, local governments, and social security organizations. The role of the public sector in ensuring the smooth operation of the economy is critical. The public sector's functions include providing public goods and services, providing an institutional framework that ensures the smooth operation of the economy, and, more broadly, ensuring social balance and economic prosperity. For better implementation of the foregoing, the state employs a variety of policies, which will be discussed further below. The state can affect an economy's total expenditure, output, and income by changing one or more of its budget sizes. It accomplishes this by pursuing fiscal policy, i.e. changing public policy. However, not all figures have the same economic impact. As a result, the state must make the necessary changes to these figures, always concerning the economic conditions that prevailed at the time. As a result, given the circumstances, the state can pursue either an expansionary or a restrictive fiscal policy.

When a state pursues an expansionary fiscal policy, it increases public spending, reduces taxes, or increases external borrowing, whereas when a state pursues a restrictive fiscal policy, it reduces public spending, external borrowing, or increases taxes. Naturally, changes must be implemented in advance of undesirable phenomena such as a recession. Monetary policy refers to actions taken by the government to influence the amount of money in the market, with the ultimate goal of stabilizing prices. An open market policy is one tool used to pursue this policy, which involves buying or selling government bonds or other debt securities on the open market (stock exchange) to reduce or increase the money supply. The minimum liquidity ratio or reserve ratio that commercial banks are required to hold in percentages or deposits is a second instrument. Finally, the discount rate, which limits the interest rate at which commercial banks can borrow money from the Central Bank, and the standing facilities, which allow banks to be financed by the central bank at a specific interest rate to cover temporary liquidity needs and with specific securities as collateral (Παπακωνσταντίνου, Κανάββας, & Ντόκας, 2013).

The public sector of a state is responsible for providing public goods and services, providing an institutional framework that ensures the smooth operation of the economy, and ensuring social balance and economic prosperity. The state can affect an economy's total expenditure, output, and income by changing one or more of its budget sizes. It can pursue either an expansionary or a restrictive fiscal policy, and changes must be implemented in advance of undesirable phenomena such as a recession. Monetary policy involves actions taken by the government to influence the amount of money in the market, such as open market policy, minimum liquidity ratio, discount rate, and standing facilities.

3. Materials and methods

The concept of small and medium-sized enterprise is a much-debated concept from every angle, economic, political, and social. What is remarkable in the category of SMEs is the large number of them at all stages of the production process (primary, secondary, tertiary production). Therefore, small and medium-sized enterprises are a link in the whole structure of the economy and developed countries. Its importance is great since it contributes decisively to social balance, employment, the maintenance of conditions of competition, the introduction of innovations, and generally to the dynamic progress of the economy. Tax revenues are equivalent to the cash reserves that business owners could realize if taxes have been managed to avoid. How these savings are distributed differs from context to context. The company's benefits can then be handled in a completely different manner, as they've been saved or taxed. The money cycle theory explains when savings stimulate economic growth and when taxes help the economy. Savings must be classified into non-savings (or managed to escape savings) as well as returned savings for this determination (or enforcement savings). For this analysis, the following equations are shown:

$$\alpha = \alpha_s + \alpha_t \quad (7)$$

$$x_m = m - a \quad (8)$$

$$\mathrm{m} = \mu + \alpha_p \quad (9)$$

$$\mu = \sum_{\iota=0}^{n} \mu_\iota \quad (10)$$

$$\alpha_p = \sum_{j=0}^{m} \alpha_{pj} \quad (11)$$

$$c_m = dx_m/dm \quad (12)$$

$$c_\alpha = dx_m/da \quad (13)$$

$$c_y = c_m - c_\alpha \quad (14)$$

The α is for escaped savings for the savings that are not returning to the economy, or these amounts of money come back after a long run period. The α_s is about the avoided savings from transfer pricing activities. The αt. is for avoided savings from transfer pricing activities considering any other commercial activity. The αt. is for commercial activities from unchecked transactions. The m is for financial liquidity. The μ is for consumption. The α_p is for the enforcement savings, which arrive from the residents as well as small and medium businesses. The x_m is for financial liquidity. The c_m is for the velocity of financial liquidity. The c_α is for the velocity of escaped savings. Thus, the c_y is the cycle of money. As a result, the money cycle or cycle of money reveals an economy's level of dynamic and robustness. Then there are the fundamentals of the money cycle.

Residents, small and medium-sized businesses, and individuals substitute the services and property of companies that save money but do not invest or consume it correspondingly in the economic system. As a result, the businesses of the transactions are the primary source of savings. The country's economic declining economic dynamic is due to escaped savings. The key point of escape savings is that the companies responsible for controlled transactions of transfer pricing are held liable for the non-reentry of these financing into the market. This scenario contributes to a lack of cash flow in an economy.

Citizens or small and medium-sized businesses do not substitute controlled transactions when it is not possible to provide that added value to the products and services. This is particularly true for manufacturing and research facilities. As a result, even if they engage in controlled transactions, these cases should indeed be taxed as uncontrolled transactions following relevant tax policy (using the fixed length principle). Enforcement savings account for the economy's high economic dynamic. As a result, citizens' and small and medium-sized businesses savings, investments, and consumption are the elements that result. The velocity of highly liquid assets indicates how fast the economy improves or declines in robustness. And there is an index that measures how much a country's economy is. The velocity of managing to escape future earnings is how fast non-return savings are lost inside the market because of a lack of investments or consumption. The economic situation is reflected in the money cycle. The overall economic dynamic, as well as the level of well-structured taxation. If this indicator is high, the economy is likely to be strong; otherwise, financial cash flow is limited.

Controlled transactions, according to the theory of the money cycle, include other cases of price fixing but any form of profit and loss administering to avoid taxation. Unchecked transactions are private businesses of citizens, small and medium-sized businesses, industrial plants, research institutions, or any type of commercial activity which can be substituted for transactions by corporations (Challoumis, 2018a, 2020a; Kominers, Teytelboym, & Crawford, 2017; Kongats, McGetrick, Raine, Voyer, & Nykiforuk, 2019; Onur Kulaç, 2017; Romme & Meijer, 2020; Silva et al., 2020; Sultana, Or Rashid, Akter Eva, & Sultana, 2020; Zamudio & Cama, 2020). The fixed length principle deals with issues like the money case cycle. However, this does not imply that the fixed length principle must be applied, as the cycle of money is a more popular theory that stretches beyond the scope of price fixing.

As a result, whenever there is a tax system, like the fixed length principle, which enables low taxation of unchecked transactions and increased taxes of controlled transactions, the money cycle expands. It should be noted that when uncontrolled exchanges are regarded, the same thing happens in terms of financial liquidity for citizens and smaller businesses. Tax incentives have three major impact factors. Rewarding taxes are the only ones that have an immediate and significant impact on any economy's market. These factors are related to education, each society's health system and the ones left relevant to the structural economics of the previous two criteria. Then, utilizing all of the variables:

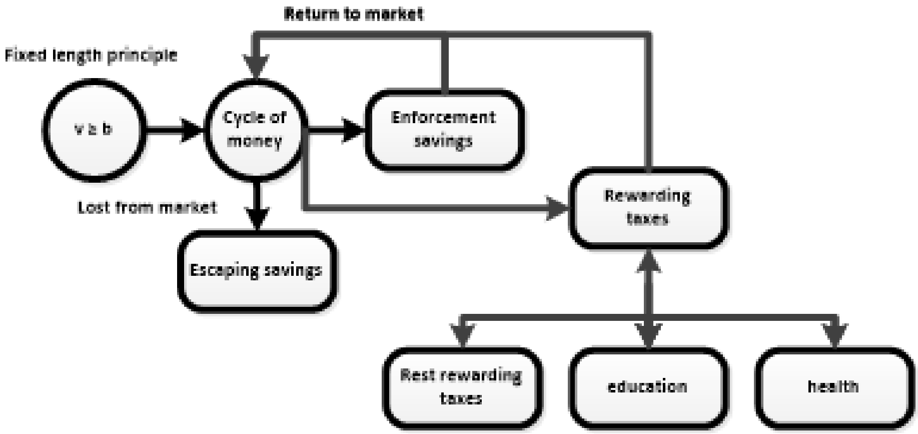

Figure 2: The Money Cycle with Rewarding Taxes

The prior scheme portrays the money cycle along with all the beneficial tax factors. Then, for the tax breaks:

$$\alpha_p = \alpha_r + \alpha_n{}^*h_n + \alpha_m{}^*h_m \quad (14)$$

$$\alpha_r \geq \alpha_n{}^*h_n \geq \alpha_m{}^*h_m \quad (15)$$

The previous two formulas made use of those factors., which are the α_p, α_r, α_n, h_n,α_m and h_m. The α_r is for the rest rewarding taxes. The α_n is for education and any technical knowledge. The α_m is all about health any of it pertinent and appreciative of this topic. The h_n, and h_m, are the health coefficient values and the health benefit aspect correspondingly.

Minimum savings and financial liquidity application:

$$\alpha_r = a_{mi} + \sum_{j=1}^{n} (\alpha_r)_j \quad (16)$$

$$\alpha_s = \sum_{k=1}^{m} (\alpha_s)_k \quad (17)$$

$$\alpha_p = \sum_{j=1}^{n} (\alpha_p)_j = \alpha_r + \alpha_n{}^*h_n + \alpha_m{}^*h_m \quad (18)$$

$$\alpha_t = \sum_{v=1}^{d} (\alpha_t)_v \quad (19)$$

$$a = \alpha_s + \alpha_t = \sum_{k=1}^{m} (\alpha_s)_k + \sum_{v=1}^{d} (\alpha_t)_v \quad (20)$$

$$m = \alpha_p + \sum_{z=1}^{q} m_z \quad (21)$$

$$0 \leq a_{mi} \leq 1 \quad (22)$$

From this point, it seems that both elements of recapitalization and reinvestment are important, as it is concluded that industries and large enterprises in general engaged in the primary sector have a mixed character. Of course, there is a basic condition, it is that they do not carry out controlled transactions. If they participate in controlled transactions, then their savings are mainly non-supportive and therefore belong to the excess savings. Thus, in the case of industrial units which do not participate in triangular transactions, it is considered that their savings are partly supportive, and partly deferred savings (generally economic units which are not substituted by medium or medium-dynamic economic data). Also, if it is considered that companies engaged in product research and development have a large volume of transactions, then it is understood that they are substituting medium-dynamic research units that would have boosted savings. For this reason, it is considered that this type of savings belongs to mixed savings. They have characteristics of both boosting savings due to their research nature, but also excessive savings because they concern a large volume of transactions.

In the previous equations the a_{mi} which represents mixed savings. The purpose of mixed savings is to represent the fact that factories, research and development centers, and other organizations have all escaped savings at the same time. The remaining symbols are already known. The general equilibrium velocities of the money cycle will be discussed in the section that follows.

The velocity of the escaped savings:

$$c_\alpha = c_{a0} * ln(c_m - c_{m0}) \tag{23}$$

$$c_{y\alpha} = b_1[(c_a - c_{a0})^2 + c_{y\alpha 0}] \quad \pm b_2(\frac{1}{c_a}) \pm b_3(1/ln\ c_a) \tag{24}$$

$$b_1, b_2,\ b_3 = 0 \text{ and } x_i\ \geq 0, \text{ where i=1,2} \tag{25}$$

In the prior equations the c_{a0} and the c_{m0} are accordingly the initial values of the velocity of escaped savings and the cycle of money. Furthermore, cy represents the general equation of the escaped savings. The following equations for accepting financial liquidity:

$$c_{ym} = b_4[(c_m - c_{m0})^2 + c_{ym0}] \pm b_5(1/c_m) \pm b_6(1/ln\ c_m) \tag{26}$$

$$b_4, b_5,\ b_6 = 0 \text{ and } x_i \tag{27}$$

$$x_i\ \geq 0\ \ , \text{where i=1,2} \tag{28}$$

The general form of the velocity of the cycle of money. The coefficients of $b_1, b_2,\ b_3$ took two of them one constant value x_i, and the other one is zero. The same happens with the coefficients of $b_4, b_5,\ b_6$ which also two of them take one constant value x_i and the other one is zero. All possible combinations of velocities of escaped savings and financial liquidities can thus be defined by two concrete equations.

$$c_{y\alpha} = b_3(\ 1/lnc_a\ ) \tag{29}$$

$$c_{ym} = b_5(1/c_m\ ) \tag{30}$$

4. Results

The results are determined based on the prior mathematical equations and the following coefficients table:

Table 1: Compiling coefficients

αs	0.6
αt	0.7
μ	0.9
αp	0.8
αs	0.6
αt	0.7
μ	0.9
αp	0.8

The behavior of the money cycle is presented using the Q.E. method:

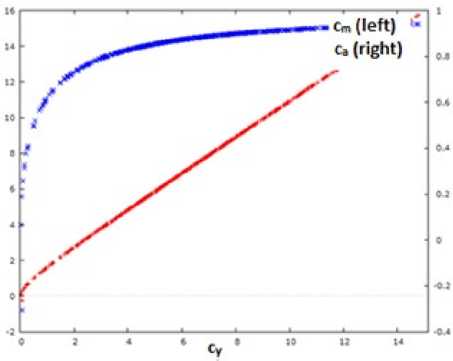

Figure 3: Cycle of money with its velocities

According to the previous figure, the cash cycle is connected to a velocity of minimal level escaped cash reserves and the velocity of cash flow. As a result, financial liquidity has a performance and ultimately, whereas minimum escaped savings has a negative velocity. While the velocity of minimum escaped earnings previously had a greater impact on the money cycle, it is eventually determined also that the velocity of financial liquidity has a significant impact than the velocity of lower limit managed to escape savings (which here is approximately equal to zero the escaped savings). When the escaped savings approach zero, the money cycle begins, denoting that the fiscal economy has hit its zenith.

5. Discussion

The minimum escaped savings mean that the money stays in the country's economic system. This has resulted in lower inflation and higher currency rates as the economy has the full distribution of money and maximum reuse of them, and there is no need to affect the banking system and the banking interest. If the economy has a high lack of money because of high interest rates, then the people will put higher prices to counteract the expensive cost of living, because of the dysfunction in financial liquidity, and the high tax rates. Then, proper reuse and distribution of money allow having lower taxes (and the opposite, meaning that lower taxes secure better liquidity, consumption, and savings, from the distribution and reuse of money). Inflation is a result of there being a lot of money which increases the prices. But inflation is because money is more than the functionality of the economy. This problem is solved by the theory of the Cycle of Money, which says that having a lot of money because of the proper functionality of the economy, resolves the issue, as the problem of inflation stands on the dysfunction between the increased amount of money without adequate functionality. Therefore, this concept states that having a lot of money due to the proper functionality of the economy resolves the issue of inflation, which is based on the dysfunction between the increased amount of money without adequate functionality.

6. Conclusion

The money cycle determines how the economy works and is used to assess consumer spending and investment in each economy. The velocity of financial liquidity eventually has a greater impact on the money cycle than the velocity of minimum escaped savings, as demonstrated in this paper. It is concluded that when escaping savings is limited, the economy has the most positive orientation. This means that consumption and investment would be increased to their maximum levels in any economy. However, it is discovered that limited escaped savings convert the logarithmic form of the velocity of escaped savings into a linear form.

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MINIMALNA UŠTEDA I FINANSIJSKA LIKVIDNOST U MATEMATIČKOM PREDSTAVLJANJU

Apstrakt: U ovom radu se razmatraju brzine minimalne uštede u pogledu finansijske likvidnosti. Ovo podrazumeva da se ispituje vođenje novčanog ciklusa u normalnim okolnostima, s obzirom na brzinu minimalnog nivoa koji je uspeo da izbegne gotovinske rezerve i ubrzanje toka gotovine. Kao rezultat toga, ciklus novca određuje kako funkcioniše ekonomija. Iz tih rezultata, razumno je doneti zaključke o potrošnji i investicijama u svakoj ekonomiji. A K.E. okvir pristupa se koristi za ovu procenu.

Ključne reči: ciklus novca, mešovita štednja, finansijska likvidnost

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ARTIFICIAL INTELLIGENCE AND DIGITAL TRANSFORMATION IN THE FUNCTION OF BUSINESS

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Abstract: This paper will present the latest research from the current field of mass application of artificial intelligence and Industry 4.0, through the prism of the impact on digital transformation and digital competencies of key users in business. Based on the research of representative foreign and domestic scientific literature, the theoretical foundations of artificial intelligence, digital transformation, and defined digital competence necessary for the age of the information society will evolve. The paper will present concrete cases of the effects of artificial intelligence on application in business through the impact on certain areas of life and work with examples from neighboring countries. This research study defines the concept, highlights the evolution and development of artificial intelligence, digitization process, and digital transformation, through an overview of their key technologies that identifies the role of artificial intelligence as the backbone of digital transformation, explores the trends of the digitization process, highlights key challenges and explores its applications in business and industry 4.0 in European countries with the identification of the impact on everyday life, and the evolution of current trends and challenges.

Keywords: artificial intelligence, digital transformations, competences, business

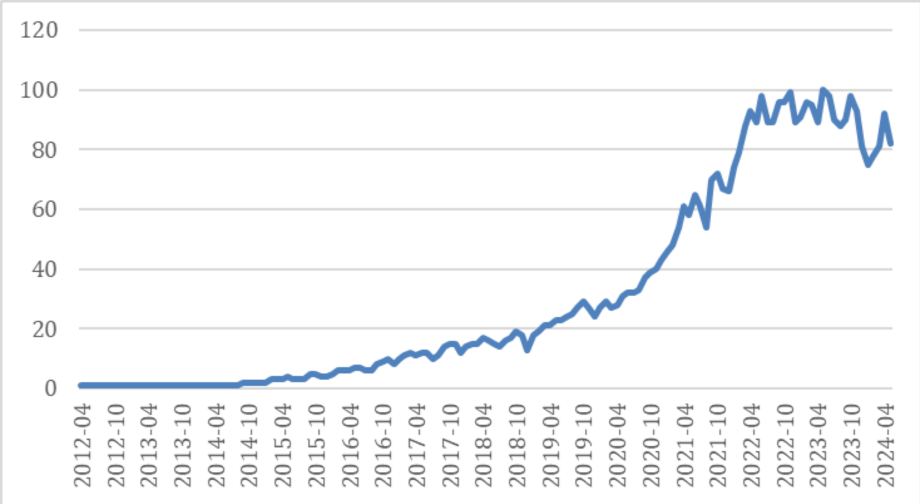
1. Introduction

Modern technological processes represent a chance to modernize business and industry through the use of the latest technologies such as artificial intelligence, the Internet of Things, and cloud computing services. Modern sophisticated technologies allow us to automate jobs and make everyday tasks easier, we do things simultaneously, quickly and efficiently (Denić N et all 2023a). In this sense, some authors point out that the technological revolution can enable businesses with competitive advantages that can lead to many potential benefits (Mosconi, Packmohr & Antonio De Santa-Eulalia, 2019). One of the key innovations in this sense is the Internet, as the fundamental technology and engine of digitization, which is undergoing transformation and in the final phase of digitization will be transformed into a new form of IoT (Elemić & Manojlović, 2022). However, some authors such as Weitzman (2016) emphasize that in the flood of technological innovations, people must be selective and carefully study which technology is necessary for us and how much value it brings us.

In this direction, the authors Brennen and Kreiss (2014) define digitization as the process of converting an analog signal into a digital signal using a binary format. The theoretical background of this phenomenon encompasses various aspects, including information technology, the Internet of Things, artificial intelligence, data processing, and machine learning. (Atwell, et al. 2019). Digitization is a process that involves the introduction of digital technology into organizations, businesses, and organizations in everyday life (Brennen & Kreiss, 2014). In addition to the above definitions, the study presented by Fichman, Dos Santos, and Zheng (2014) is often mentioned in the literature, which defines digitalization as a process that transforms content or objects that were originally completely physical or analog into digital ones. In general, it can be said that the term digitization is most often used when different forms of information, such as text, sound, image, or voice, are converted into binary code. In the binary code, information exists in digital form as one of two digits, 0 or 1. The information defined in this way is also known as a bit (digits in the binary number system - base 2 system) where sequences of digits 0 and 1 constitute information called a byte (Copestake, et al., 2024). One of the fundamental goals of the digitization process is to improve efficiency, speed, and reliability in every activity, using digital technology. The following Figure 1 shows the search trend for the term digital transformation on Google by year.

optimal business decisions (Ma, 2024). Another advantage mentioned by the author is that customers and markets that were previously

Figure 1. Digital transformation of Google searches over the years



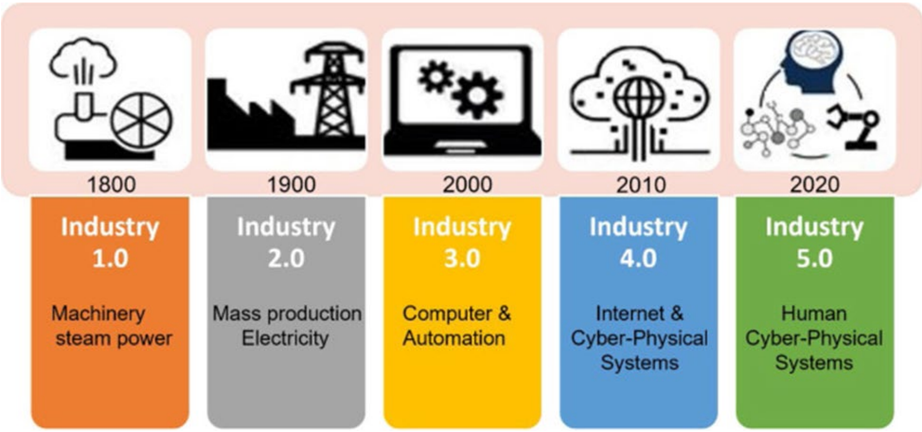
Source: Google trends

One of the main benefits of the digitization process is the increase in the efficiency of business processes, which at the same time become more flexible (Denić N et all 2020). In addition to the above advantages, digitalization can save on costs and increase operational efficiency by automating daily operations and simplifying the company's business processes. The latest research indicates that the processes of data collection and analysis in real-time can also be enabled by digitalization, which enables companies to make

inaccessible due to geographical, cultural, or economic limitations can now be reached through the application of digital technologies (Ma, 2024). In this context, key elements of these processes include artificial intelligence that allows machines to learn and adapt, the Internet of Things that connects devices and systems, and cloud technologies that allow access to data from anywhere in the world (Atwell, et. al. 2019). In the literature, there are several interesting opinions about the digitalization process, where it is stated that at the company level, Kuusisto (2017, p. 341) defines digitalization as the use of digital means by which the organization can improve its operations. By introducing the digitalization process in business, we improve efficiency and effectiveness, while creating new added value for customers (Denić et all 2018). On the other hand, despite the fact that digitization represents an important factor for the application of innovations in the current scientific research fund, research on these processes, that is, on how digitization, innovations, and information and communication technologies contribute to the performance of open innovations in banking (Copestake, et al., 2024).

They are still not in line with the importance of the mentioned process. Overall, the theoretical background of digitization and Industry 4.0 encompasses a wide range of different concepts and interpretations. In the following Figure 2, a characteristic chronological development or evolution of the industry is presented.

Figure. 2. Industrial evolution



Source: (Sharmin et all 2024)

It is obvious that the accelerated technological development, the expansion of smart devices, and the proliferation of mobile devices, as some of the elements of the fourth industrial revolution, have placed especially before financial institutions' challenges to which they have responded by digitalization, the creation of new communication channels to clients, as well as a multitude of other innovative services (Copestake, et al., 2024). One of the innovations that is often mentioned in the literature is Industry 4.0, which especially affects manufacturers because a large number of new technological innovations can be applied in production, storage, operations, manipulation, and the like. (Vendrell-Herrero, et al., 2024). Theoretical research indicates that Industry 4.0 logically follows the previous three industrial revolutions and marks the rapid digital transformation of processes within the manufacturing and manufacturing (and other related) industries. (Atwell, et al. 2019). In this context, Transformation is based on the intelligent networking of machines (and other devices) using advanced information and communication technologies, with the aim of enabling autonomous communication between devices, analysis and collection of large amounts of data, autonomous decision-making, monitoring of the situation in realtime, assets and processes and the creation of additional values (Gartner, 2021). The transformation of business models as part of Industry 4.0 results in improvements that lead to increased profits, reduced costs, improved user experience, innovation, etc. (Gartner, 2021). Some authors emphasize that the fourth industrial revolution represents a transition to a "higher level" of production in which machines will be completely redefined in terms of communication methods and individual functions (Đorđević, 2020). However, some authors emphasize the importance of the quality management process through the question of what is this more knowledge what is this more advanced approach, and what should be understood, the answers to these questions should be sought by resolving the causes of the insufficiently efficient process of automation and digitization in the current application, from the aspect of principles and approach to quality management. (Muller, et al., 2023).

2. Digital transformation

In the relevant literature, it is emphasized that the term digital transformation expresses the totality of actions that an organization must undertake when it comes to the introduction of new technologies (Singh and Hess, 2017, p. 2). Some authors point out that digital transformation as a term represents a new phenomenon in the business sector, although based on practical experience, most companies are still not ready to tackle it (Mosconi, Packmohr & Antonio De Santa-Eulalia, 2019). In essence, digital transformation represents much more than just the application of new technologies. In this context, some authors emphasize that it includes all processes within the company that include both technology and employees (Del Rove, 2017). In the process of digital transformation, using sophisticated digital technology (social networks, mobile applications, analytics, etc.), the company introduces continuous business improvements that improve user experience, and information flow or create new business models. The well-known author Vielle (2016, p. 11) defines digital transformation as a process that includes: constant development, implementation, and maintenance of information technology. This is followed by experts who emphasize that it involves a strategy at the company level, which includes all the opportunities and risks that digital technology brings with it (Singh and Hess, 2017, p. 2). The digital transformation of the business economy can be defined as a global change in the economic system, characterized by the transfer of all economic relations in the virtual world (Alekseevna, Iakovlevna and Vasilievich, 2017, pp. 2-3). Well-known authors Morakanyana, Grace & O'Reilly, (2017) in Table 1, presented the characteristics of the digital transformation process.

Table 1. Digital transformation and its characteristics

What is digital transformation?	
Organizational strategy	(Bharadwaj, Omar, Pavlou & Venkatraman, 2013) (Matt, Hess & Benlian, 2015)
Business processes	(Agarwal, Gao, Desroches & Jha, 2010) (Berman & Marshall, 2014)
Paradigms	(Berman & Marshall, 2014)
What are the characteristics of digital transformation?	
Radical	(Westerman, Calméjane, Bonnet, Ferraris & McAfee, 2011) (Berman & Marshall, 2014) (Berman, 2012)
Disruptive	(Fitzgerald, Kruschwitz, Bonnet & Welch, 2014) (Berman, 2012)
Evolutionary	(Loebbecke & Picot, 2015)
Complex	(Matt, Hess & Benlian, 2015)

Source: (Morakanyane, Grace & O'Reilly, 2017)

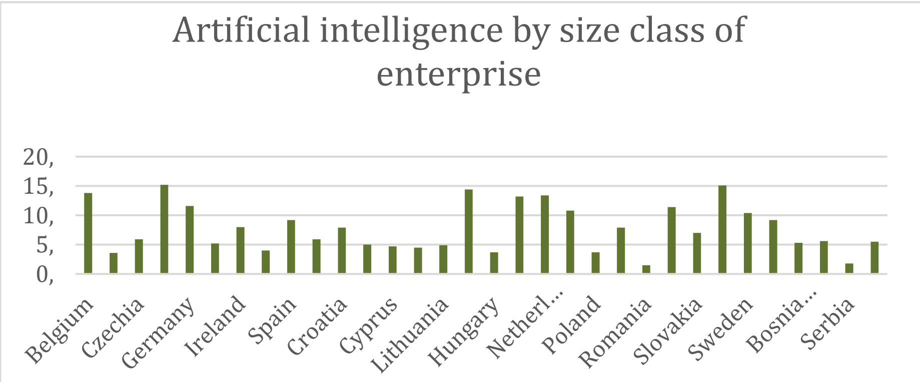
Digital transformation has the greatest impact on businesses in terms of winning new potential customers and acquiring the resources they use (Tolboom, 2016). In their study, some authors emphasize that considering the impact of digital transformation, the International Data Corporation (IDC) estimated that the amount of investment in IT projects or digital transformation technologies in 2017 was greater than 1.7 trillion dollars (Gale & Aarons, 2018). Therefore, in today's digital age, the concept of digital transformation has attracted a lot of attention and has become a daily agenda item for business leaders (Morakaniane, Grace & O'Reilli, 2017). Some authors emphasize the importance of innovations in the digitization process. In this context, Weitzman (2016, p. 196) claims that innovation is the ultimate measure of progress. The same author emphasizes that the speed of innovation depends on effectiveness, productivity, and efficiency. Digital transformation also has a strong impact on human resources, as it fundamentally changes the management and organizational structure of the company. The application of the new concept creates new jobs and a large number of existing organizational functions will be automated or replaced by robots. As a result of all that, the conclusion is that business is increasingly dependent on the application of information technology. In this context, it is pointed out that revolutionary changes in business efficiency are taking place in terms of speed, efficiency, reliability, and quality (Ahlemann, 2016).

3. Artificial inteligence IoT paradigm and application

The relevant literature has offered various definitions of artificial intelligence, each of which encompasses key concepts of non-human intelligence programmed to perform specific tasks (Dwivedi et al. 2021). Some of the current emerging technologies are the Internet of Things, Big Data, Big Data Blocks, Social Networks, Artificial Intelligence), Virtual Reality, Augmented Reality, 3D Printing, etc. (Vielle, 2016, p. 9). The emergence of Internet browsers and Internet technologies continued the trend of faster, better, and cheaper systems, which allow us to use open-source software and standards, which further increases the scope and impact of computing (Elemić & Manojlović, 2022). One of the most current leading modern technologies is artificial intelligence. The possibilities of application as well as the benefits that its application brings are enormous. In this sense, the literature states that artificial intelligence initiates major changes in all spheres of society, business, politics, education, human resources, finance, etc. (Kaal and Vermeulen, 2017, p. 179). The mentioned authors further state that the artificial intelligence of standard computer algorithms differs in that it is an imitation of the human mind through self-learning and based on past experience (Kaal and Vermeulen, 2017, p. 179). Common to the existing definitions of artificial intelligence is the increasing ability of machines to perform specific roles and tasks currently performed by humans in the workplace and society in general (Dwivedi et al. 2021).

when he summarized the findings of the Stanford University research, which, among other things, examines how artificial intelligence and smart technologies will affect life in 2030. Examples in practice indicate that artificial intelligence encourages progress in all areas of life and work in the economy, health, and education and that it will radically change the way of life and work. For the above reasons, companies today are pursuing artificial intelligence to automate business processes, improve customer care, improve operations and cyber security. The following figure 3 shows the representation of artificial intelligence in companies of different European countries.

Figure 3. Artificial intelligence by size class of enterprise (Eurostat)



Source: Eurostat - Artificial intelligence by company size

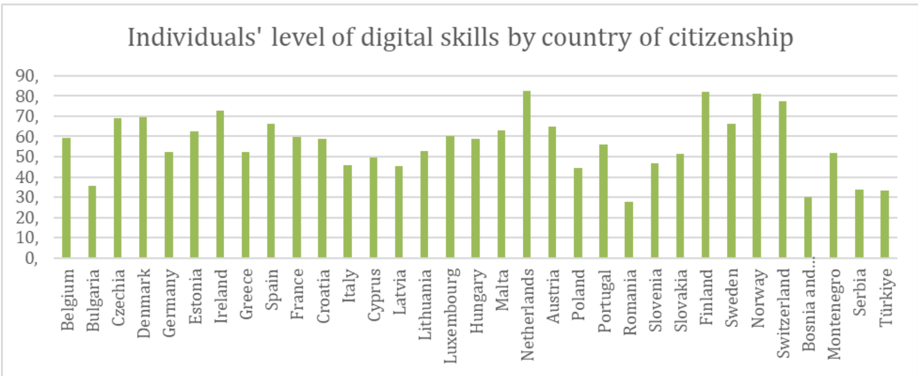
Many research studies and expertise deal with this topic, one of them was conducted by Stackpole (2016, p. 29)

Figure 3 shows that certain countries such as Finland, Denmark, Luxembourg, etc. have advanced far in the application of artificial intelligence in companies and that the benefits of application are noticeable in almost all areas. Based on the Report from 2019, the Republic of Serbia was ranked 58th out of 194 countries. The index measures eleven indicators grouped into four areas: governance, infrastructure and data, skills and education, and public administration and services. Starting with current applications in business automation, education, and machine learning, for example in healthcare smart sensors will help in measuring and collecting data on patients, diagnoses, and life expectancy. The current crisis with the COVID-19 pandemic has led overnight to the massive application of modern learning tools, even though scientists have long since devised electronic learning tools and worked hard to ensure that the computer could replace humans with machine learning. In the relevant literature, machine learning is defined as solving problems using algorithms that learn from examples, data, and experience (Godrej, 2017, p. 13). The same author cites the latest report by Citi and Oxford Martins School, according to which more than 80% of retail jobs are being automated. Also according to this author, it is predicted that one in three jobs in Great Britain should be abolished over time (Godrej, 2017, p. 13). One of the consequences of the application of modern technologies is that automation itself will reduce outsourcing because companies will again be able to produce cheaply in their environment (Godrej, 2017, p. 13). The most optimal application of artificial intelligence from the aspect of humanity, which is confirmed by experience in practice, is the automation of work that is monotonous, boring, repetitive, dirty, and dangerous to the health and life of employees. However, novelties and changes are evident, airplanes can easily deliver the necessary medicines to the most difficult areas in Africa (Godrej, 2017, p. 13). According to the same author, it is estimated that e.g. by 2030, 30% of all police officers in Dubai will be robots (Godrej, 2017, p. 14). One of the technologies that has been relevant for some time is the Internet of Things (IoT), which has a wide application and is present in almost all business processes. Well-known author Stackpole (2016, p. 26) defines IoT as things or processes that we connect to the Internet to ensure better performance and user experience. The development of technology also brings with it security issues, as things connected to the Internet are far more susceptible to abuse (Stackpole, 2016, p. 27). The dilemma is how to control the devices and the data that is collected about us. Research indicates that the innovative application of modern methods, techniques, and tools of artificial intelligence, which are based on or are connected to the application of deep neural networks and accompanying scientific and technological achievements, is underrepresented. Godrej (2017, p. 16) highlights the problem of control over technology and the accumulation of data primarily at the level of individuals, which in turn will have a major impact on society as a whole. However, without a legal identity, AI cannot be held responsible for its actions and resulting damages (Kaal and Vermeulen, 2017, p. 181). For effective quality 4.0 in business, it is necessary to observe that: quality is an attitude; quality is a process of change that allows the organization to learn about the wishes and needs of users, whether they are expressed or not; quality is a framework for improvement, a way of life, culture and thinking, that is, understanding. (Tjahjono, et al. 2023). There is still a public fear of the term artificial intelligence in the sense that the technological elite could manage the lives and property of individuals.

4. Effects of artificial intelligence on digital competences

Modern society has become tied to technology in all spheres of human life (Denić 2019). Digital transformation requires special competencies, which are very rare in the human resources market today (Ahlemann, 2016). In the relevant literature, there is an interpretation of artificial intelligence as an institutional hybrid, i.e. a term that is quite problematic and that needs to be reinterpreted by the needs of different actors (lawyers understand artificial intelligence in a different way than policymakers, in a different way than journalists, different from bioinformatics experts, different from science fiction fans, etc.) (Dwivedi et al. 2021). A good number of scientists, cyberneticians, systems theorists, artificial intelligence/robotics experts, and sociologists argue that artificial intelligence is simply undefinable because we do not have a clear understanding of the word intelligence (Dwivedi et al. 2021). The fact is that artificial intelligence requires a good knowledge of information technologies, i.e. raising digital competencies to a higher level. Fundamental digital competencies, in the long run, are generated in the education system, and the level of digital competencies of students depends, among other things, on the level of digital competencies of lecturers. In this sense, artificial intelligence is highlighted as a special cross-curricular competence within the Standard of General Cross-Curricular Competences for the end of secondary education. The above does not mean only the ability of citizens to read digital content or to use a computer at an elementary level, but a broader knowledge of IT. Research indicates that there is significant room for improvement and education of the population in this segment because even the use of artificial intelligence implies that citizens know how to recognize when they are interacting with it (for example, when assistance is provided by a virtual assistant, not a human). The conducted survey Public Attitudes on the Use of Artificial Intelligence showed that the public in the Republic of Serbia has mostly heard of the concept of artificial intelligence, but that 4% of respondents do not know anything about artificial intelligence, while 8% know quite a bit, and that 40% are somewhat familiar with it. concept and its application. Digital competence, where it is necessary to determine the role of artificial intelligence in cross-curricular competencies. The following figure 4 presents the level of digital skills of individuals in different European countries.

Figure 4. Individuals' level of digital skills by country of citizenship



Source: Eurostat - Level of digital skills of individuals by country of citizenship

5. Conclusion

Digital transformation is undoubtedly one of the main topics in business development today. Almost all innovations are related to the digital perception of the world, and the change of business models towards digitalization is essential for the survival of companies. What experiences in the world show is that to fully fulfill the potential of digitization and Industry 4.0, Serbia must invest in the education and training of its citizens to work with new technologies. Incorporating more sophisticated technologies such as artificial intelligence (AI) and machine learning (ML) can increase business efficiency and effectiveness through business process automation. In this sense, the state must invest more in initiatives to raise public awareness and education to develop the competencies of all citizens, especially the younger generations, to better understand the implications of AI. Also, it is necessary to create a stimulating environment for innovation and the development of new technologies. In the Strategy for the Development of Artificial Intelligence in the Republic of Serbia for the Period 2020-2025. it is recommended to educate experts and improve the situation in the Republic of Serbia when it comes to professional staff for the development and application of artificial intelligence. The main purpose of this research is a favorable starting point for the successful implementation of digital transformation, which in turn has a positive impact on companies' operations. As the digital revolution progresses, these transformations will fundamentally change the information and decision-making systems we use to design, manage, and control business processes. Despite significant progress in the field of digital transformations, much remains undiscovered. Integrating advanced technologies can improve the predictive and analytical capabilities of modern technologies. As these sophisticated technologies mature, research should explore their adaptability in various production systems and critical data security and privacy issues. In this sense, directions for further progress are being imposed, the first is towards raising digital competencies, i.e. educating the wider public in the Republic of Serbia, and towards increasing the transparency of the benefits of the application of artificial intelligence, while the second direction of action should be to investigate ethical and humane aspects of the application of sophisticated technologies such as artificial intelligence at an expert level with all the implications of the risks and challenges that they bring with them.

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VEŠTAČKA INTELIGENCIJA I DIGITALNA TRANSFORMACIJA U FUNKCIJI POSLOVANJA

Rezime: U ovom radu biće predstavljena najnovija istraživanja iz aktuelne oblasti masovne primene veštačke inteligencije i Industrije 4.0, kroz prizmu uticaja na digitalnu transformaciju i digitalne kompetencije ključnih korisnika u poslovanju. Na osnovu istraživanja reprezentativne inostrane i domaće naučne literature, razvijaće se teorijske osnove veštačke inteligencije, digitalne transformacije i definisane digitalne kompetencije neophodne za doba informacionog društva. U radu će biti prikazani konkretni slučajevi uticaja veštačke inteligencije na primenu u poslovanju kroz uticaj na pojedine oblasti života i rada na primerima iz zemalja u okruženju. Ova istraživačka studija definiše koncept, ističe evoluciju i razvoj veštačke inteligencije, proces digitalizacije i digitalnu transformaciju, kroz pregled njihovih ključnih tehnologija koja identifikuje ulogu veštačke inteligencije kao okosnice digitalne transformacije, istražuje trendove procesa digitalizacije, ističe ključne izazove i istražuje njegove primene u poslovanju i industriji 4.0 u evropskim zemljama uz identifikaciju uticaja na svakodnevni život i evoluciju trenutnih trendova i izazova.

Ključne reči: veštačka inteligencija, digitalne transformacije, kompetencije, poslovanje

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CRYPTOCURRENCIES AS A FORM OF PAYMENT IN ELECTRONIC COMMERCE

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Abstract: In recent years, a special type of electronic, i.e. digital currency, which is better known as cryptocurrency, has been developed. The increasing use of cryptocurrencies in the world leads to many new opportunities in the world of electronic commerce, and the formation of a completely new, decentralized payment system. Degree of adoption of cryptocurrencies on a global level varies from country to country. In some more developed countries, cryptocurrencies are slowly becoming a regular system for payment of goods and services, so most sites offer the possibility of paying in cryptocurrencies. In our country, that system has not been much developed yet and there are not many sellers who receive cryptocurrency as compensation for sold goods. The goals of this research study are to examine what opportunities cryptocurrency owners have for exchanging cryptocurrencies for traditional money, what opportunities for purchasing goods and services are available to cryptocurrency owners, and which cryptocurrencies are most widely used in the Republic of Serbia.

Keywords: cryptocurrencies, Bitcoin, Ethereum, crypto wallet, Republic of Serbia

1. Introduction

For centuries people have strived to develop an adequate means of payment. Initially, metal coins was used as a means of payment. It was a fixed amount of gold or silver, with a stamped symbol, which served for recognition. That symbol, first of all, indicated how much precious metal the coin contained, and secondly, which government issued the coin and guaranteed the content of precious metal in it (Dašić, 2023).

Coinage was supplanted by paper money, which was in fact just a guarantee of payment, that is, a guarantee that value would be transferred to the seller. In such trades, trust was based on an intermediary who issued a paper guarantee that covered the value of the exchange of goods. Each country had to have a precious metal backing for the money that was in circulation at that time.

With the advancement of technology, electronic payment systems were slowly starting to appear. In the beginning, payment cards had been dominating the world of electronic payment systems for years. Later, electronic wallets, a mobile payment system, had been developed until 2008 when cryptocurrencies appeared.

Over time, the need for states and banks to have cover for the money they issue ended, and money transactions were reduced to a record of those transactions on a computer. This situation led to the centralization of the payment system and led to a great influence of financial institutions on the national economies of the states. This, then, led to the development of digital currencies, i.e. cryptocurrencies, which somehow decentralize the payment system.

2. Alternative payment methods in electronic commerce

Electronic commerce is changing very quickly, and therefore it is not easy to set a precise definition of electronic commerce. In addition to the technological aspect, it is necessary to emphasize the economic aspect and define electronic commerce as a new market that offers new types of goods and services, such as digital products through digital processes. Retailers of physical goods are also involved in digital processes, such as online ordering, market research and payment, which are parts of this new market (Vladisavljević, et al., 2023).

Electronic commerce represents the purchase and sale of goods and services through technology, via the Internet and computers (Dašić, et al., 2023; Dašić, G. 2023), as well as the transfer of money, using information technologies. Capital transfer is done through modern payment systems, and one of the simplest divisions of these payment systems is onto payment cards and alternative payment systems. There are alternative payment methods that have a local character, but the cryptocurrencies we are researching are widely accepted and have a global character.

Cryptocurrencies are closely related to Blockchain technology, which provides users with the maximum possible data protection by using the function of cryptographic data. The concept of Blockchain technology is based on the idea of forming a digital system composed of nodes, and that all information within the system is exchanged between all nodes of the system. Each individual node in the system has equivalent information that was achieved by applying an algorithm based on consensus building. Basically, Blockchain is a computer file, which is used to collect data – information. Blockchains have three characteristics in common, which when put together work differently than all other types of computer files.

In a short time, cryptocurrencies have become very popular in the world, and are considered one of the most important ways of earning. The number of cryptocurrencies in circulation today is almost 9,000. Unlike classic money that is used based on bank transactions, and therefore must be stored in a bank account, cryptocurrencies are stored in a "digital wallet", which the user can open on a website specialized in that service. Digital wallets used for the purpose of storing cryptocurrencies are called crypto wallets. The crypto wallet is completely free, we will give an example of the ECD wallet, which, in addition to the service of storing cryptocurrencies, offers options for depositing dinars, as well as receiving, sending, buying or selling cryptocurrencies for dinars.

There are different types of crypto wallets, which are divided into two groups: software and hardware wallets. Most crypto wallet providers are software-based, which makes their use more convenient than hardware wallets. However, hardware wallets are usually the safest alternative. Depending on the needs, that is, the criteria that are important to us in Serbia, we can choose one of the following crypto wallets: Best Wallet – the best crypto wallet in 2024; Coinbase – a crypto wallet for beginners; eToro – the most famous crypto wallet; Binance – Best Wallet App for Trading; Huobi - the best app to earn interest on crypto; Trezor - Secure Bitcoin Hardware Wallet; Luno - the best Bitcoin account for easy use; Exodus – free Bitcoin wallet for desktop and smartphone; Ledger Nano X – One of the safest crypto wallets to buy.

Cryptocurrencies can be obtained by mining or direct purchase on online markets, which is simpler and easier. Mining is based on the use of special computer equipment, which, by solving mathematical algorithms, enables users to "mine" cryptocurrencies. This method is more complex and demanding. The "miners" are the most essential part of any cryptocurrency network, as they are the ones who bring the cryptocurrency to market. With their expensive equipment, they solve cryptographic tasks, the difficulty of the tasks increases proportionally with the number of people trying to solve them, that is, with the number of people mining that cryptocurrency. The more popular a cryptocurrency is, the more difficult the mining process becomes, which is the case with Bitcoin today. As for Bitcoin, it should be emphasized that holding such mined cryptocurrency is much simpler compared to trading and carries much less risk. Therefore, it is possible to estimate that currently around 80% of Bitcoins are held in profit, but not sold.

There are a number of cryptocurrencies that can be mined, the most famous of which are Bitcoin and Ethereum. Without going into a more detailed analysis, we will point out the most significant difference between the two most famous cryptocurrencies. The most significant difference is the fact that Bitcoin is designed as a digital currency and in order to be realized as such, the Blockchain technology was made, which, when it comes to Bitcoin, is only used to record transactions between Bitcoin users. On the other hand, Ethereum is designed to be adaptable and flexible, any programming code can be written on its chain, not just completed transactions. In fact, Ethereum is such a Blockchain that allows users themselves to create any kind of operations, regardless of their complexity, and not just a predetermined group of operations, as is the case with Bitcoin. It should be emphasized that Ethereum cannot be mined, i.e. it is not practical as of 2022 when the Ethereum network transitioned from a Proof of Work model to a Proof of Stake model. Proof of Work - in this algorithm means that miners use computers to solve complex mathematical problems and verify transactions. Proof of Stake means that instead of solving mathematical problems, users lock a certain amount of cryptocurrency in the network as "invested capital" or "stake". The main goals of this transition are better stability, lower energy consumption and greater network security.

3. Research and data analysis

The aim of this study is to check to what extent cryptocurrencies are represented in our country and how many people deal with them. Also, considering that exchanging and performing transactions in cryptocurrencies is still in its infancy, the research should show us to what extent cryptocurrencies are used as the form of payment for goods and services. We will try to give answers to the following questions: what percentage of people use cryptocurrencies, what opportunities cryptocurrency owners have for exchanging cryptocurrencies for traditional money, and what opportunities for purchasing goods and services are available to cryptocurrency owners. This research should help us to: learn about the latest trends in the world of cryptocurrencies; to get a better insight into the structure of users who use cryptocurrencies; to get a better insight into cryptocurrency trading opportunities.

The research was carried out in the north of Kosovo and Metohija, in four municipalities located in that territory: Kosovska Mitrovica, Zvečan, Leposavić and Zubin Potok. The total number of respondents in this research is 35. During the research, demographic segmentation of respondents was used. The respondents were divided into two age groups, the first group of respondents, 18-30 years old - 16 people; the second group of respondents, 30-45 years old - 19 people.

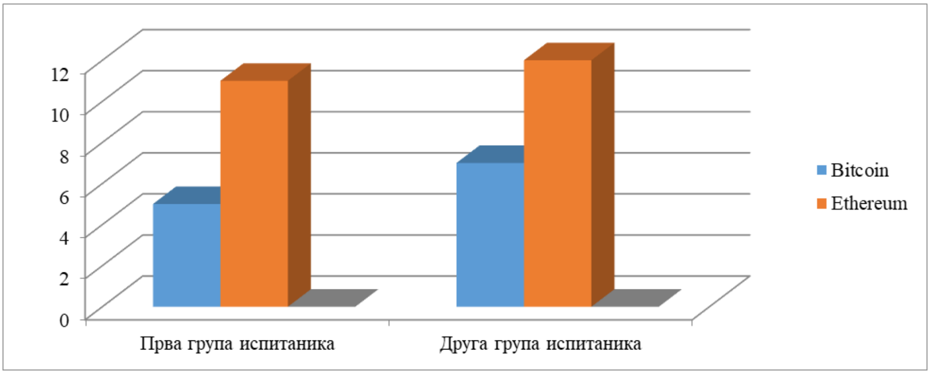
The questions the respondents were asked during the survey are: what cryptocurrencies do you use (Bitcoin, Ethereum, other)? Do you use crypto wallets? Do you have the option to pay for products with cryptocurrencies? Is the number of merchants that allow payment in cryptocurrencies increasing?

When answering the first question, respondents mostly mentioned Ethereum. Respondents who answered that they use Bitcoin, stated that it is easier to trade on the stock market, and that they are convinced that the value of this cryptocurrency will increase over time, so they think that it is a safer investment. They also answered that they use other cryptocurrencies, but primarily for the purpose of exchanging cryptocurrency for money.

As for the crypto wallet itself, all respondents generally use different crypto wallets, there is none that stands out. Some of the crypto wallets mentioned are: eToro, Coinbase, Binance, Exodus.

When the first group of respondents was asked, "Do you have the possibility to pay for products with cryptocurrencies?", 14 people have stated that they do not have any possibility to pay in our country, that is, that they cannot buy the products they are interested in, while 2 people have stated that there is the possibility to buy some products that they are interested in in our country as well. In the second group of respondents, 16 people have stated that they do not have the possibility to pay in our country, that is, they cannot buy the products they are interested in, while 3 people have stated that there is a possibility to buy some products they are interested in, in our country as well.

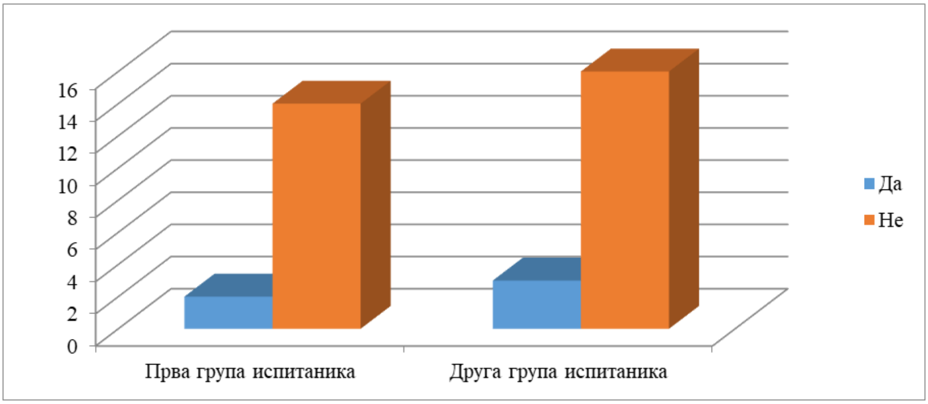
Figure 1. What cryptocurrencies do you use? - graphic view



The first group of respondents The second group of respondents

As we can see from the answers given, the majority of the respondents expressed a negative opinion on this issue, i.e. in the conversation with them, we have learnt that there is still no market for cryptocurrencies in the Republic of Serbia, that it is not possible to use them for the purchase of goods and services, i.e. that only a small number of sellers offer possibility through their websites, and often they are not interested in these products that much.

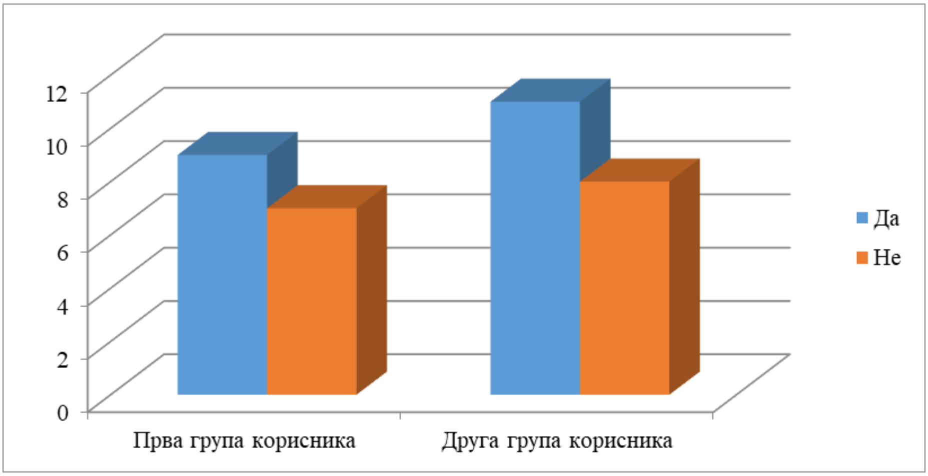
Figure 2. Do you have the option to pay for products with cryptocurrencies? –graphical view



The first group of respondents The second group of respondents

In the first group of respondents, 9 people have answered in the affirmative form, while 7 people have stated that they are not aware of such cases in our country. In the second group of respondents, 11 people have answered in the affirmative form, while 8 people have stated that they are not aware of such cases in our country. Based on the answers given to this question, it is evident that the respondents are generally not familiar with online stores that allow payment in cryptocurrencies, that is, that such online stores do not have adequate marketing, thanks to which a wider circle of customers could be familiar with the possibilities of paying with cryptocurrencies. Those respondents who are familiar with such online stores believe that, although there are more of them compared to the previous period, there are still not enough of them.

Figure 3. Is the number of merchants that allow payment in cryptocurrencies increasing? - graphic view



The first group of respondents The second group of respondents

4. Conclusion

Over 200,000 people owned some kind of cryptocurrency in the Republic of Serbia in 2023 and an interest in owning cryptocurrency in our country grew after it was recognized by the Serbian legislation. With the adoption of the Law on Digital Assets, virtual currencies are recognized as virtual assets, i.e. as a digital record of value that can be digitally bought, sold, exchanged or transferred.

Although cryptocurrencies in the world, as well as in our country, are increasingly seen as a good investment and not only a means of payment, digital currencies find different forms of application in payment in our country. If you do not have a possibility to buy, for instance, a Tesla car with cryptocurrency, which is a new payment option that this company offers, you do not have to go all the way to the US to spend your coins. Technology and electrical devices, gaming equipment can now be purchased with cryptocurrencies in Serbia, and further development of legislation is expected to open up space for new traders who will empty your digital wallet (Radaković, et al., 2023). There is, for instance, "Cryptoshop", as they call themselves, "the first crypto store" where you can mostly buy technical and electrical devices and pay for them in one of the cryptocurrencies at your disposal.

Although more and more people deal with cryptocurrencies and own cryptocurrencies in the Republic of Serbia, the possibility to pay in them is quite small. We have also found that, although cryptocurrencies have not been fully implemented in electronic payment systems yet, payment with cryptocurrencies is possible in some places. We especially emphasize that there are still a large number of cryptocurrency owners who look at them as an investment and not as a means of payment.

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Ekonomski signali, 2024, 19 (1): 035-046

KRIPTOVALUTE KAO OBLIK PLAĆANJA U ELEKTRONSKOJ TRGOVINI

Rezime: Poslednjih godina se razvija posebna vrsta elektronske, odnosno digitalne valute, koja je poznatija pod imenom kriptovaluta. Sve češća upotreba kriptovaluta u svetu dovodi do mnogih novih mogućnosti u svetu elektronske trgovine, i formiranja potpuno novog, decentralizovanog sistema plaćanja. Stepen primenjivosti kriptovaluta na svetskom nivou varira od države do države. U nekim razvijenijim državama kriptovalute polako postaju regularan sistem plaćanja roba i usluga, tako da većina sajtova nudi mogućnost plaćanja u kriptovalutama. U našoj državi, taj sistem još uvek nije toliko razvijen i ne postoji mnogo prodavaca koji primaju kriptovalutu kao naknadu za prodatu robu. Ciljevi ovog istraživanja su da se ispita koje mogućnosti vlasnici kriptovaluta imaju za razmenu kriptovaluta za klasični novac, koje mogućnosti za kupovinu roba i usluga stoje na raspolaganju vlasnicima kriptovaluta i koje kriptovalute se najviše koriste u Republici Srbiji.

Ključne reči: kriptovalute, bitkoin, eterijum, kripto novčanik, Republika Srbija

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ECONOMIC POLICY AND ENERGY SECURITY OF SOUTHEAST EUROPEAN COUNTRIES

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Abstract: Energy security is essential for the sustainable economic development and stability of the country. In recent years, it has been actively studied. The energy security challenges of European countries have changed significantly in the past 20 years. From one point of view, the current war between Russia and Ukraine raises doubts about the energy security of the countries of Southeast Europe. On the other hand, deep changes in energy security at the world level, activated by innovative progress and major geopolitical changes, encourage the European Union to reevaluate its security system. Economic, social and demographic changes in the world require new solutions that would include innovative ways to ensure a smooth and uninterrupted flow of energy to sustain the daily life of citizens. The inability to access energy resources causes severe economic disruptions and political instability. In the conditions of the global economy, disruptions are easily transmitted and therefore it is essential to permanently secure energy resources and make an effort to reduce the so-called energy poverty, which mostly affects countries in transition (Southeastern European countries) and third world countries. The obtained research results show that renewable energy sources could become a sustainable solution to the above-mentioned problems. A well-balanced and well-positioned use of renewable energy sources could alleviate the shortcomings of traditional energy systems and prevent major shocks to energy security in the world and in the countries of the European Union.

Keywords: energy, energy security, regional development, renewable energy sources.

1. Introduction

Globalization has become one of the factors increasing the demand for energy. As demand increases, a greater supply of energy is needed. This rapid globalization then leads to a rapid depletion of energy resources [1]. Energy is an essential resource for all forms of business field covering energy suppliers, transportation businesses, energy related industries and energy suppliers. According to the International Energy Agency (IEA, 2007), energy security is the constant availability of energy sources at a reasonable price. Energy security can be defined as the continuous physical availability of energy sources at an affordable price to meet future energy demand (I.E.Agency, 2018; Beng Wah et al., 2015). Energy security can be in terms of resource availability, consumer affordability and environmental sustainability for energy development (Aleh & Jewell, 2014). It is considered important for both daily activities and long-term investments (Ehrenberger et al., 2015). Energy security encompasses multiple scopes. Long-term energy security primarily refers to appropriate investments for energy supply in accordance with economic growth and the needs for sustainable economic development (Strielkovski et al., 2017). On the other hand, short-term energy security emphasizes the ability of the energy system to respond in time to unexpected variations in the balance between energy supply and demand. Therefore, the absence of energy security is associated with negative social and economic effects of either the physical availability of energy or non-competitive or excessively variable prices. This process is equally vital and important for rural and urban areas (Jankurova et al., 2017) and is widely reported in mass media (Čabelkova et al., 2015).

European Union countries buy most of their energy (Aad & Van der Linde, 2006; Yergin, 2006). A large number of energy imports originate from weak districts and suppliers associated with a significant risk of supply interruptions, which puts European countries under great pressure (Le Coq & Paltseva, 2009). Excessive gas dependence on Russian gas affects the security risk for the European Union where Eastern Europe becomes one of the key battlegrounds of the energy game (Buchan, 2010; Man-Hua et al., 2008). The European Union is most dependent on Russia in terms of sources of energy supply, because Russia has a rich source. This factor ultimately makes Russia among the major players in the energy market in Southeast Europe (Mohnfeld, 1990). However, the war between Russia and Ukraine has raised concerns about security of supply. This concern eventually led policymakers to revise the internal and external dimensions of the European Union's energy security strategy (Aoun, 2015), relying above all on regional cooperation, based on the common needs and interests of regional partners. In essence, regional cooperation refers to the need for countries with similar or even the same development conditions to pool their resources and strengths in response to global challenges. It is, at the same time, a prerequisite and a means of European integration, which is the main strategic goal of all the countries of Southeast Europe. The European Union itself is based on the principle of regional cooperation and sets the same principle as a mandatory prerequisite for the further integration of Southeast Europe in the European Union. Regional cooperation can also be seen as preparation for future membership in the European Union and should not be mistakenly seen as a substitute for integration.

2. European security strategy and energy

Energy security, economic development and the efficiency of environmental protection have long been basic and interrelated goals, which is why today no national economy can state that it is "energy secure". What can be concluded is bipolarity - some have access to energy at an increasingly high and difficult to sustain political price, while others have huge reserves of energy resources with which they want to dictate future global development. In order to provide energy for oil and gas companies, gas and oil pipeline infrastructures, producers, distributors and others in the energy business, new opportunities are opening up, but also new and high risks. However, even after more than thirty years since the first energy crisis, the most important dilemma of the global world has not been resolved - the provision of sufficient amounts of energy, in an economically, energetically and ecologically acceptable way!

According to the assessment of the European Security Strategy from 2003, security is a prerequisite for development (Bardžić et al., 2023). There is also the fact that energy dependence is a reason for "special concern" in Europe. If we start from these two assumptions, it can be easily concluded that in order to achieve energy security, it is necessary to adopt and implement an efficient European energy policy. "Energy security for consumers, which is the position of the European Union, requires both solid, contractually regulated relations with producers and transit countries, as well as reliable, predictable and stable supply. That task is not at all simple. Europe is the world's largest importer of oil and gas. The complexity of this challenge is illustrated by data on the consumption of oil and gas, which continue to represent the main sources of energy. Oil consumption, according to data from the European Union Commission for the then 25 member states, represents 37% of total energy consumption, and natural gas 24%. A similar percentage is predicted for 2030 with a slight decrease in the proportion of oil (33.8%) and an increase in the share of natural gas (27.3%)" (Simurdić, 2009).

Globally, the problem of energy security is gaining importance, given the fact that the world's energy resources are limited, and that the demand and consumption of energy sources is increasing along with the growth of the world's population and the development of new technologies. In addition, resources and their consumption are unevenly distributed geographically (SRWE, 2016).

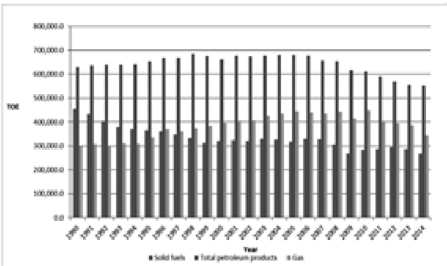
The uneven distribution of power supply and demand for energy products has resulted in a dependency relationship arising in the producer-customer relationship in their distribution. At the same time, this dependence is not one-way, that is, not only energy importing countries depend on producers, but also the largest exporters depend on stable demand and the market where they will market their products. Energy resources are limited and non-renewable, and the demand for them is constantly increasing, because the functioning of modern economies is unthinkable without them. This caused energy trade to be an issue of public importance, which requires the engagement of the state apparatus and is a subject of state policy (Curaković, 2023). In other words, energy trade has become a political issue. The consequence of this is that supplier-customer relations are determined not only by economic logic, but also by political motives and foreign policy interests of buyers and suppliers. Another consequence of politicization is the reduction of predictability, and the increase of uncertainty and mistrust of participants in the chain of energy dependence.

In the new energy position, which contributes to the strengthening of energy, and thus the general security of the EU, there will be different levels of cooperation and integration, like several rings where the European Union is in the center. The Energy Community (of which Serbia is also a member) is an example of how it can work.

The question is how much does the European security strategy affect Serbia, as a potential candidate for membership in the European Union, primarily in the energy sector? In essence, Serbia's institutional ties with the European Union have progressed the most precisely in that area. This was achieved by membership in the Energy Community and the ratification of the Agreement in 2006. In this way, Serbia becomes, first of all, in the domain of electricity and gas, a part of the internal European market. The second pillar is the Stabilization and Association Agreement. In both cases, it is about frameworks that contribute to the strengthening of Serbia's energy security.

As for threats to energy security, it can be said that the modern world depends on a large supply of energy for everything from communications to transportation to health and security systems. Energy is an important player in the national security of all countries as fuel for trade and industry (Gojković et al., 2023). Certain sectors are more energy dependent than others. Today, there are many threats to energy security, including rivalry over energy sources, manipulation of energy supply, attacks on supply infrastructure, political instability of various energy-producing countries, accidents, dependence on foreign nations for oil, terrorism, and natural disasters. Chart 1 shows the change in gross internal energy consumption in the countries of the European Union in the period from 1990 to 2014. It is clear that the share in total oil derivatives and solid fuels significantly decreased with the overall increase in the share of gas.

Chart 1. Gross internal energy consumption in thousands of tons of oil equivalent for the countries of the European Union



Source: Eurostat (2017)

Foreign energy supplies are subject to abnormal disruptions due to internal conflicts, exporter interests and non-state actors targeting the distribution and transportation of oil resources. Economic and political instability as a result of warfare or other aspects such as a strike may accordingly prevent the proper operation of the energy industry in an oil-producing country. For example, the nationalization of oil in Venezuela has sparked protests and strikes, with the country's oil production rates yet to recover (Yetiv & Lu, 2007). Exporters could have an economic or political incentive to restrict foreign sales or cause disruption in the supply chain. Terrorist attacks targeting oil fields, refineries, tankers, pipelines and oil facilities are so widespread that they have become risks to the energy industry. Resource produc-tion infrastructure is highly sus-ceptible to outages. New threats to energy security have emerged due to the increased global completion of energy resources caused by the increasing speed of industrialization in countries such as China and India (Savić et al., 2023). Increased rivalry over energy resources may also result in the establishment of security agreements that will ensure an even supply of gas and oil between the major powers. However, this could happen to the detriment of economies that are less developed. Energy security encompasses multiple scopes and can be viewed through the prism of long-term and short-term energy security.

3. Long-term energy security

Long-term actions to improve energy security focus on reducing reliance on any single imported energy source, increasing the number of suppliers, exploiting natural renewable energy or fossil fuels, and reducing overall demand through energy measures. conservation. In addition, it may include the signing of international agreements to strengthen global energy trade relations, such as the Energy Charter Treaty in Europe (Haghighi, 2007). Any concerns arising from security threats about long-term security measures of petroleum resources will help reduce future costs of importing and exporting fuel to and from countries without worrying about damage to goods in transit.

The effect of the oil crisis in 1973 and the emergence of the OPEC cartel was a special turning point that encouraged some nations to strengthen their energy security (Golubović & Janković, 2023). Relying almost entirely on imported oil, Japan has progressively introduced the use of nuclear power, natural gas, rapid mass transit systems, and implemented energy conservation measures. The UK began oil and gas exploitation in the North Sea and grew to become a net exporter of energy during the 2000s. In other countries, energy security has traditionally been a lower priority. For example, the USA has continued to increase its reliance on imported oil, although after the increase in oil prices since 2003, the creation of biofuels has been suggested as a way to solve this problem (Barton et al., 2004). Moreover, the increase in safety is one of the reasons behind the blockage in the establishment of natural gas in Sweden. Greater investments in natural renewable energy technologies with energy conservation are quite anticipated. India is pursuing a major search for national oil to reduce its dependence on OPEC, while Iceland is making good progress in its strategies to become energy independent by 2050 using 100 percent renewable energy (Lior, 2012).

4. Short-term energy security

According to Cordesman (2006) and Zlyvko et al. (2014), crude oil (petroleum) has become the most used energy resource by countries around the world, including China, Russia and the USA. Due to the location of oil wells around the world, it turns out that energy security is the main issue that guarantees the safety of the oil that is produced. Oil fields in the Middle East have become a key target for sabotage because most of the world's countries depend on them for oil (Inđić et al., 2023). Most nation states keep strategic oil reserves to act as a cushion against the political and economic consequences of the energy crisis. Compared to oil, dependence on imported natural gas leads to significant short-term vulnerabilities.

As reported by De Vries et al. (2007), most European nations saw a sharp drop in supply following the shutdown of Russian gas supplies during the Russia-Ukraine conflict. Natural gas has become a sustainable source of energy on a global scale. However, natural gas suppliers face one of the biggest challenges today – the ability to store and transport it. Because of its low density, it is difficult to create adequate pipelines in North America to transport enough natural gas to equalize demand (Savić & Bonić, 2022). Nuclear gas has also become one of the main sources of energy and currently produces 13 percent of the total electricity in the world.

The use of renewable technologies usually increases the diversity of electricity sources and, through local production, leads to the flexibility of the system and its fight against fundamental shocks. For countries where increasing reliance on imported gas is an important energy security issue, renewable technologies can offer alternative sources of electricity along with shifting electricity demand through direct heat generation. Renewable biofuels for transportation represent the main source of diversification of crude oil products. Lior (2012) claims that countries will begin to recognize the need for a renewable source of energy, due to the fact that resources that have been very important for survival around the world are decreasing. As a result of the production of new types of energy such as wind energy, biofuel, hydroelectric, geothermal and solar energy, there is adequate energy to power the world.

Water storage currently dominates the world of conventional electricity storage. The rapid continuous decline in the price of batteries raises hopes that the chemical will offer a new and attractive storage option. Newbery and Strbac (2016) summarize estimates of battery energy storage costs for 2020 ranging from 253 to 345 euros/kWh for a battery pack, in contrast to today's costs of around 1117 euros. Energy stored in batteries from renewable sources such as wind turbines during off-peak periods could be discharged during peak periods, as opposed to running non-renewable sources such as natural gas turbines which are more expensive. The value gained by storing cheap or free renewable energy during off-peak or low-demand periods, which could be sold during peak hours (which are generally afternoons), can be calculated by simply taking the differen-ce in market price between time periods.

5. The state of energy in the countries of Southeast Europe

In the countries of Southeast Europe, the state of transition in the energy market is currently underway. This one of many aspects marks their overall transition from previous communism to more liberal economic and political systems. Developments in the future energy sectors in Southeast Europe will significantly affect the development of energy and world oil markets, since these countries are considered the world's largest oil and gas producers and energy consumers (Mohnfeld, 1990).

The countries of Central Europe and the Soviet Union, which are also known as the Eastern Bloc, were until recently as a group almost self-sufficient in energy. These countries were connected to the world because of their net exports of coal, oil and gas, with the other direction of trade flow being minimal. To date, there has been a complementary relationship between the six Eastern European countries and the Soviet Union. Eastern European countries imported 1.6 million barrels per day (mbd) of oil in 1988, with the vast majority of this amount, approximately 1.5 mbd, imported from the Soviet Union. The Soviet Union exported a total of 3.1 mbd of oil. Meanwhile, the remaining half of these exports went mainly to Western Europe, to OECD countries. These Soviet crude oil exports were primarily brought to bloc countries by export pipelines (to Poland and East Germany, built in the 1960s, and to Czechoslovakia and Hungary, built in the 1970s). The treaty was in terms of rubles, which were cheaper and easier to earn than hard currency, as its terms allowed the countries of Eastern Europe the ability to buy Soviet crude oil on favorable terms. Earlier, the Soviet Union rejected the policy of increasing crude oil exports under these conditions and reduced shipments to Eastern Europe in 1988. In the future, the hard currency payments demanded by the Soviet Union will increase to a larger share. As for the current energy market, the full integration of national energy markets into the global internal electricity market of the European Union, which was targeted in 2014, has imposed a major challenge for electricity markets in Europe. These days, the countries of Eastern and Central Europe are currently considered emerging electricity markets and are not fully known by Western market participants. On the other hand, among other possible consequences, the establishment of this single European energy market will provide them with a more significant part in understanding the evolution of European electricity prices. Meanwhile, in other markets, different determining factors contribute to the formation of prices and they are relatively different according to countries depending on their resources, neighboring countries and others that are too numerous (Milenković et al., 2023).

The region of Southeast Europe has a population of fifty-five million inhabitants, located in as many as nine countries, and a gross social product in 2008 of four hundred and seventeen billion dollars. Although the number of inhabitants is approximately equal to the number of inhabitants of Italy or France, without the energy-developed countries of Southeast Europe, the energy result for the European Union would be shortages of energy and energy sources, and for Russia a drop in efficiency. This is precisely the comparative advantage of the entire region. If the countries of the region are not politically stable and investment satisfied, the comparative advantage of a good geostrategic position they have will turn into its opposite. By 2012 alone, this region needs 440 MW of new power capacities. Further investments by 2020 are estimated at as much as thirty billion euros.

There are many critical points of the future energy status of the region. The most important ones refer to the following:

9. Insufficient energy capacity (49.5GW) is the main cause of power interruptions. The devastation of the infrastructure led to the need for a new 4500MW, i.e. to the need to invest around five billion euros by 2012.
10. The average annual growth rate of energy demand is estimated at 2.3% (from 1714 to 2194TWh) until 2012 (which is twice as much compared to the previous decade),
11. The investment climate is still insufficiently suitable for investors in a large number of countries, especially from the point of view of their protection (policy, legislation, regulations, tariff reforms),
12. By sector, the largest consumers of energy are households, which indicates insufficient development of the industry, but also a certain growth in the demand for energy in the years to come,
13. Gas and oil production is limited due to scarcity of reserves. The Western Balkans is highly dependent on the import of fossil energy sources from outside the region,
14. Energy intensity is high and over 2.5 times higher than in the EU region." (Milanović-Mihajlović, 2009)

There are many opportunities for investment in this region, but they will remain only potential if the provisions of the Treaty on the Energy of Southeast European Countries are not intensified in these countries, and the directives of the European Union are not strictly applied. Regional energy interdependence requires the strengthening of capacities for joint deliveries of both gas and other energy sources. Positive examples from the previous gas crisis and the delivery of gas through Serbia to Bosnia and Herzegovina are a positive and significant example. This can also be achieved through joint projects in the field of gas storage. What is certain is that the strategic goals of the Southeast Europe region cannot deviate from the strategic goals of the European Union in the part that concerns security of supply, acceptable and expected energy prices, as well as environmental and energy sustainability. The current situation in the region is characterized by: energy security, which is in decline, prices of electricity, gas and oil derivatives, which are neither expected nor competitive, and the share of carbon in energy sources in the production of energy products is constantly increasing. The possibility to improve this situation lies in increasing the share of renewable sources in the energy mix, increasing the global partnership of these countries and the European Union, and investing in energy technologies (Stoiljković et al., 2023). The fact that this region is located between rich energy resources (Russia and the Middle East) and the main energy consumers of Western and Central Europe makes it geopolitically attractive, and energetically and economically significant. The chance that Southeast Europe faces to become the most important link in the transit of gas from the Middle East, Central Asia and the Caspian region to the consumers of the European Union can only be realized with a well-developed infrastructure.

6. The energy community as a common energy market of the countries of Southeast Europe

The establishment of the energy community began in 2002 with the signing of the first Athens Memorandum of Understanding. It continued in 2003 with the signing of the second Athens Memorandum of Understanding. These memoranda contain intentions on cooperation between the countries of Southeast Europe and the European Union in the field of energy. This process was encouraged by the activities of the countries of Southeast Europe in the process of accession to the European Union (Zupur & Janjetović, 2023). With the entry into force of the Treaty on the Establishment of the Energy Community in mid-2006, Serbia ratified it, thereby assuming the obligation to implement the regulations of the European Union. The idea of establishing the Energy Community, as a common energy market of the countries of Southeast Europe, arose from the need to achieve security of energy supply to the region and to connect the energy market of the region with the market of the European Union. The energy community, given its geographical position, should be a bond of security of energy supply between the energy market of the European Union as a consumer and the Caspian, North African and Middle Eastern gas reserves. At the same time, the energy supply security of the Energy Community would be achieved from the aforementioned sources, but also through the use of domestic reserves of natural gas, coal and hydropower potential. The main goal of the energy community is to create a stable market, which is unique, built in a way to attract investments in energy infrastructure, all with the aim of achieving access to energy capacities by the members.

The areas of activity of the Energy Community, through which the European integration of Serbia is realized, include the implementation of European Community regulations in four basic interconnected areas: energy, improvement and protection of the environment, competition and renewable energy sources" (Kovačević-Lepotić, 2009). The Treaty on the Establishment of the Energy Community is Serbia's first entry into real integration and the European Union. Harmonizing the regulations of Serbia with the regulations of the European Community in the field of energy means the implementation of the legal system of the European Community in the entire legal system of Serbia, because it is not possible to comprehensively regulate relations in the field of energy, and not cover regulations on companies, public enterprises, competition, consumer protection and life the middle. It is also not possible not to comprehensively apply to the entire legal system the principles of publicity of work, non-discrimination, competition and equal legal position of all participants in the market (not only energy). The importance of this agreement for the European integration of Serbia was later confirmed by the ratification of the Stabilization and Association Agreement from September 2008. In this agreement, the necessity of cooperation between Serbia and the European Union on developing the achievements of the Energy Community and the integration of Serbia into the energy market of the European Union is underlined.

7. Serbia's energy security as a factor of regional cooperation and regional development

The draft of Serbia's national security strategy rightly includes the issue of energy as a risk. The accuracy of this assumption was proven with the consequences of the war conflict between Russia and Ukraine. The countries of Southeast Europe, including Serbia, were left without gas. The interruption of deliveries only further proved the fact that, when it comes to oil and gas, Serbia is a country highly dependent on imports and potentially an energy "unsafe" country. The facts that speak best are the following: about 80% of oil is imported, as well as about 90% of gas. Serbia is also a landlocked country, which makes the task of ensuring energy security a big challenge for its foreign policy and at the same time makes it dependent not only on producers and transit countries, but also on their many different relationships. Serbia has had an increasing energy deficit for a number of years, but with the help of investments that are not too large, it could very quickly be on the list of countries with sustainable economic development and energy capacity that exceeds its own needs. These economic and material reserves of the country lie in alternative and renewable energy sources, which the country is very rich in.

The question arises, how much energy does Serbia lack? Serbia is a medium energy dependent country. Annual consumption of all types of energy is lower than production, which makes the total dependence of about 40%. At the same time, it should be borne in mind that the level of economic development is still below what is necessary for rapid convergence with developed countries and that energy needs will only increase. It is unacceptable that today Serbia consumes three to five times more energy per euro of gross domestic product than the UNECE countries. With bad and outdated production technologies, old transmission energy systems with large losses and still low energy prices, we are getting to the point that the country's energy balance, as it is, is economically unsustainable for a long period of time. At the moment when the price of energy reaches a commercially justified, i.e. market level, the Serbian economy will not be able to compete with other participants in the open, global market. Only in the conditions of a protected, to some extent autistic market, with strong state subsidies that have a social rather than an economic character, this situation is apparently sustainable, but in the long term it is not good for the local economy.

The question is often asked whether Serbia has energy reserves and, if so, what they consist of. Increased energy efficiency and management of renewable energy sources in Serbia is an essential answer and resource for the sustainable development of the country in the following years. At the same time, this represents Serbia's large and quickly profitable investment capacity. Serbia is rich in natural potentials of renewable energy sources, and by using them, it can reduce its energy dependence on coal, oil and gas, which are pollutants of the atmosphere and environment, and replace them with healthy and clean energy sources. At the same time, it will improve its energy security by creating its own capacities precisely through renewable energy sources and energy efficiency. Serbia has good investment potential in renewable energy sources such as solar energy, wind energy and geothermal energy or the hydro potential of small watercourses. Perhaps the biggest reserves are in the enormous potential of biomass and biogas. However, the awareness of this is not yet sufficiently developed, and there are not enough investment funds to start the investment cycle in this area, although at the same time large amounts of foreign currency are being spent to import the missing energy. Serbia ratified the Kyoto Protocol in September 2007 and thereby demonstrated its readiness to implement measures to preserve the environment. At the same time, the work on editing the legislation has only just begun. There are no incentive measures, which hinders the inflow of new investments, and the administrative procedure for obtaining appropriate permits is unreasonably long and often unnecessarily complicated.

In order to improve Serbia's energy security, it is necessary to continue the integration of energy systems in the region with energy efficiency and the provision of multiple sources of supply.

8. Conclusion

Energy security is a worrying issue for many nations today. Dwindling carbon energy resources, growing energy demand, and volatile energy prices make this issue a matter of life and death in both energy-rich and energy-poor countries. The whole world is looking for a solution to deal with the constantly growing need for a constant supply of cheap and efficient energy. The research found that renewable energy sources and significant prospects for energy efficiency are present in large geographic regions, unlike other energy sources, which are concentrated in a few countries around the world. Rapid use of renewable energy sources with energy efficiency and industrial expansion of energy sources can lead to significant economic benefits, as well as energy security. Since no nation is self-sufficient in its energy needs, it can ensure access to reliable, cheap and environmentally friendly energy through partnerships and cooperation. The biggest concern is the depleting energy sources. Consequently, it is important to create a new energy system that could provide sufficient, cost-effective and non-polluting energy. Also, the energy infrastructure is crucial for economic recovery in the countries of Southeast Europe, which, according to many parameters, have very low energy efficiency compared to European standards. Low energy prices, weak management and large losses threaten the possibility of growth and development of the largest part of the energy sector. Regional cooperation in the energy sector can be considered as the most promising area of cooperation. The signatories of the agreement from the region undertook to implement the relevant regulation of the European Union in the field of energy within one year after the agreement enters into force. The signing of the Energy Community Agreement is an important step in recognizing the fact that efficient energy infrastructure is of vital importance for the stability of the region and its future role in energy transit. The Black Sea countries (Bulgaria and Romania) started energy market reforms earlier and made significant progress in this. Therefore, a regional approach in the energy sector could accelerate the process of reforms and adoption of good experiences from the environment in the region of Southeast Europe.

When it comes to ways of further research that are beyond the scope of this paper, it would be interesting to perform a more detailed analysis of world regions and compare their potential when it comes to energy sources and their exhaustion. Also, it would be interesting to assess the potential for renewable energy sources (eg hydro, wind, solar) in different regions of the world and make an assumption about which regions could specialize in which renewable energy sources and how the potential trade could be conducted. This seems to be a particularly interesting discussion because the concept of comparative advantage and the principles of international trade can be incorporated into energy analysis. Moreover, it would also be interesting to focus more on the perspective of the integration of energy systems around the world.

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EKONOMSKA POLITIKA I ENERGETSKA BEZBEDNOST ZEMALJA JUGOISTOČNE EVROPE

Sažetak: Energetska bezbednost je od suštinskog značaja za održivi ekonomski razvoj i stabilnost zemlje. Poslednjih godina ona se aktivno proučava. Izazovi energetske bezbednosti evropskih zemalja značajno su se promenili u prethodnih 20 godina. S jedne tačke gledišta, trenutni ratni sukob između Rusije i Ukrajine izaziva sumnju u energetsku bezbednost zemalja Jugoistočne evrope. S druge strane, duboke promene u okviru energetske bezbednosti na svetskom nivou, aktivirane inovativnim napretkom i velikim geopolitičkim promenama, podstiču Evropsku uniju da revalorizuje svoj sistem bezbednosti. Ekonomske, društvene i demografske promene u svetu zahtevaju nova rešenja koja bi uključivala inovativne načine kako da se obezbedi nesmetan i nesmetan tok energije za održavanje svakodnevnog života građana. Nemogućnost pristupa energetskim resursima izaziva teške privredne poremećaje i političku nestabilnost. U uslovima globalne ekonomije poremećaji se lako prenose i zato je od suštinskog značaja da se trajno obezbede energetski resursi i učini napor da se smanji tzv. energetsko siromaštvo koje najviše pogađa zemlje u tranziciji (zemlje Jugoistočne Evrope) i zemlje trećeg sveta. Dobijeni rezultati istraživanja pokazuju da bi obnovljivi izvori energije mogli postati održivo rešenje za gore navedene probleme. Dobro uravnoteženo i dobro pozicionirano korišćenje obnovljivih izvora energije moglo bi ublažiti nedostatke tradicionalnih energetskih sistema i sprečiti velike šokove po energetsku bezbednost u svetu i u zemljama Evropske unije.

Ključne reči: energija, energetska bezbednost, regionalni razvoj, obnovljivi izvori energije

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METHODOLOGY AND RESEARCH METHODS IN PUBLIC RELATIONS

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Abstract: The most advanced form of public relations is represented by scientifically guided processes of solving organizational problems and change processes. This paper discusses some of the methods used to gather quantitative and qualitative information to define the problematic situation as accurately as possible. The primary purpose of research in public relations, like other business functions, is to reduce uncertainty in decision-making. This paper first examines the place of research in various models of public relations. It then explains the first phase in the PR management process - situation analysis - where research activities are particularly emphasized. The second part of the paper focuses on methods, both formal and informal, commonly used in PR practice.

Keywords: PR, Methodology, method, communication

1. Introduction

The most advanced form of public relations is represented by scientifically guided processes of solving organizational problems and change processes. Experts who utilize this type of public relations rely on theoretical frameworks relevant to resolving the given situation (problem). They apply knowledge about society and the behavior of social groups and individuals, using research to resolve problematic situations. PR programs are increasingly based less on intuition, foresight, or personal experience, i.e., the skill of reacting to environmental threats, and more on combining a rational problem-solving approach with proactive strategic planning (Cutlip et al., 2003). An organization implements a public relations program when (1) it needs to carry out a corrective program to resolve a pressing problem (e.g., reducing market share); (2) to implement a specific project; and (3) it aims to strengthen efforts in maintaining or improving its reputation or public support (Wilcox et al., 2006: 151)

Marston presented a problem-solving model in PR over half a century ago, known by the acronym "RACE" (Marston, 1963). Four identified activities chronologically alternate during the process: research, action, communication, and evaluation. The crucial part of the entire process, or the core of public relations, is communication, as the organization's message transmission to specific audiences achieves the ultimate goal of every program: gaining support for goal realization. The chosen communication strategy should enable two-way communication – the organization addresses relevant audiences, but it also listens to them, considering their views, opinions, and perceptions (Penezić, 2023; Vlajković, 2023).

Research emerges as a prerequisite for successful and strategic public relations planning (Vuković, et al., 2023). This paper first examines the place of research in various public relations models. It then elaborates on the first phase in PR management – situation analysis – where research activity is particularly highlighted. The second part of the paper focuses on methods, both formal and informal, commonly used in PR practice.

2. Models of solving problems in public relations

The four-phase problem-solving process, as used in public relations, has the primary purpose of reducing uncertainty when making decisions. Problem-solving in PR occurs through four phases: (1) defining the problem, (2) creating and planning programs, (3) action and communication, and (4) evaluation.

Defining the problem (or opportunity). This stage of the problem-solving process in PR involves examining and monitoring the knowledge, attitudes, opinions, and behaviors of those directly or indirectly related to the organization (or company). This phase is a prerequisite for proceeding to the next steps in the problem-solving process. The fundamental question that must be answered in this phase is: "What is currently happening?"

Planning and program creation. Based on information gathered in the first phase, decisions are made regarding programmatic audiences, general and specific objectives, specific programs, and communication strategies, tactics, and budget. The results of the first phase, obtained from problem research, become part of the organization's policy and program. The fundamental question that must be answered in this phase is: "What needs to be changed (or done) and communicated based on the information collected about the problem?"

Taking action (implementation) and communication. In the third phase, the adopted program is implemented through communication to achieve specific objectives for each audience individually. This is a prerequisite for achieving the overall goal of the program. This phase expects answers to the question: "Who needs to do and say this, when, where, and how?"

Program evaluation. The final stage of the problem-solving process in PR involves evaluating the preparation, implementation, and results of the program. It is common during the implementation of a program to monitor its effectiveness based on feedback. A program may continue or be discontinued in the future, depending on the assessment of its implementation—whether it was effective or not. The question to be answered in the final phase of the problem-solving process is: "How did we do and what were the results?"

The four-phase problem-solving process begins with gathering information to identify the problem in the best possible way. After describing and understanding the problem, the next steps are equally important. In practice, it is not easy to draw a clear line between diagnosis, planning, implementation, and evaluation. The PR management process is essentially continuous, cyclic, and takes place in a dynamic environment. A simplified model of the problem-solving process in PR is presented. In reality, each of these phases consists of a series of steps to be taken.

There are other ways to describe the problem-solving process in PR, such as the APRV model: analysis - plan - implementation - evaluation (Verčič et al., 2004: 35). These models sometimes include feedback, and problem-solving in PR is seen as an "endless cycle in which six components are connected in chains" (Wilcox et al., 2006: 7). Understanding public relations as a cyclical process, feedback - audience reaction - plays an important role; it leads to program evaluation and thus becomes an essential part of developing future PR projects.

Sheila Crifasi uses the acronym ROSIE, which stands for research, objectives, strategy, implementation, and evaluation of PR programs (Crifasi, 2000: 22). Around the same time, acronyms like RAISE (Kendall, 1997) and ROPES (Kelly, 2000) were proposed. The five-phase ROPES model includes research, objectives, programming, evaluation, and program implementation (stewardship). Finally, a slightly modified RACE model in the form of ROPE was proposed (Hendrix & Hayes, 2012). Although acronyms can be helpful - they aid in memory - they often seem limiting. In this sense, four-phase models are more useful, mirroring marketing practices, they encompass the overall PR management process. An example of such an approach is Ronald Smith's strategic PR planning model, consisting of four phases and nine activities, including formative research (three steps), strategy (three steps), tactics (two steps), and strategic plan evaluation (Smith, 2021: 24). Research pertains to the situation, organization, and audience, while strategy involves setting objectives and tasks, devising actions and appropriate strategies, and developing a communication strategy. Tactics refer to selecting communication tools and implementing the strategic plan.

Public Relations Planning. Problem-solving in PR is a broader concept than "public relations planning," although the differences are not significant. Communication strategies are not usually considered in PR planning. PR planning represents a "continuous effort to establish and maintain a good reputation for the organization in its environment and to establish mutual understanding and trust between the organization and its external and internal publics" (Filipović & Kostić-Stanković, 2014: 227). Systematically, PR planning includes six activities: (1) analysis and description of the problem situation; (2) setting goals and determining strategy; (3) identifying resources needed to achieve goals; (4) developing PR programs; (5) defining tactics to implement PR programs, and (6) monitoring achieved results and measuring outcomes.

Many marketing theorists do not separate situation analysis (internal and external) as a distinct, initial phase of the process but consider it an integral part of PR planning, along with goal setting, strategy and tactic definition, and budget determination (Stanković & Đukić, 2009: 201). Public relations planning sometimes includes eight activities: (1) defining roles and tasks; (2) determining key result areas; (3) identifying and determining key performance indicators; (4) selecting set goals; (5) preparing action plans; (6) determining control methods; (7) communicating, and (8) reaching agreement among all key individuals involved in program implementation regarding clear task delegation and responsibility (Brooks et al., 1988).

Sparling (1994) identifies five steps in the PR planning process: (1) analyzing the current situation, (2) setting goals, (3) defining strategies and tactics, (4) budget determination, and (5) monitoring and evaluating results and measuring achieved effects.

3. Defining the problem - The first stage in the PR management process

Defining a problem usually begins with an organization's assessment that certain business activities are not progressing correctly, leading to stagnation or regression. The pursuit of even better results can be identified as a problem (Dašić, 2023a). These assessments start from the organization's or company's goals. Goals are the basis for identifying existing or potential problems. A clearly defined problem answers the question: What is currently happening? Information related to a specific problem is communicated in the present tense. Describing the situation is based on measurable and specific parameters, requiring answers to the following questions:

What is causing concern?
Where does the problem lie?
When did the problem arise?
Who is involved or affected?
How are they involved or affected?
Why is this important for the organization and its public?

When setting (or diagnosing) a problem, solutions are not offered, nor is blame assigned to anyone. Communication should not be taken as an indication of a problem, as in the often-used statement, "What we are facing here is a communication problem." Communication is part of the solution, not the problem. In other words, "communication can be part of the solution, but it is not stated as part of the problem itself" (Katlip et al., 2006: 320).

Analysis of the situation. Unlike the mere framing of a problem, which can be described in a single sentence or paragraph, situational analysis is a much more extensive document. It comprises a diverse set of information about a problem, often referred to as a "book of facts" by public relations practitioners, including the history of the problem, internal and external factors influencing it, etc. (Dašić, 2023b). Situational analysis begins with a preliminary problem statement, continues with the results of situation investigation, and ultimately leads to a more acceptable, or working, definition of the problem.

Situational analysis mainly consists of two parts. The first part involves analyzing internal factors relevant to the identified problem. This part of the analysis focuses on the organization's policies, procedures, and actions related to the problematic situation (Dašić, 2018). Attention is also given to "communication audit." This activity entails systematic monitoring and documentation of an organization's communication.

The purpose of this part of situational analysis is to better understand the communication process between the organization and its target audiences and facilitate the decision-making process.

After thoroughly examining the problematic situation from the organization's perspective, the second part of the analysis is undertaken. It comprehensively evaluates external factors - both positive and negative.

A specific part of the analysis is the "stakeholder analysis." It is, in fact, an analytical process in which all individuals involved in the situation or affected by it in any way are identified. They are in a state of interdependent relationships with the organization, meaning that everything they do, feel, or know has an impact on the organization and vice versa. However, it would be incorrect to consider stakeholders as part of the public towards which the program for solving a particular problematic situation is directed. Finally, determining stakeholders precedes the process of planning a program strategy to ascertain the accuracy of assumptions about them: "who these stakeholders are, what they do, what they know, and how they feel in a given situation, how they are connected and how they influence it, what information they consider important, how they use it, and even how they access it" (Katlip et al., 2006: 322).

Understanding "stakeholders," or knowledge about relevant interest groups, is valuable in that it enables clear prioritization. The order of priorities is defined depending on who is most important for a given problem. Only after that does one resort to, with more or less detail, analyzing internal and external pressures. Various methods are used for this purpose, such as SWOT analysis, PEST analysis, vector analysis, and others.

SWOT Analysis. A detailed analysis of a problematic situation consists of four elements: assessing the strengths (S) of the organization; assessing the weaknesses (W) of the organization; identifying opportunities (O) for the organization to act on, and identifying threats (T) to the organization. Hence, the acronym SWOT is used for this method, and sometimes TOWS.

The purpose of the analysis is, in medical terms, to make a diagnosis so that an appropriate therapy can be prescribed (Cvetković, 2003: 46). Depending on the combination of elements in the SWOT analysis, the organization can choose an appropriate response strategy: "SO," "ST," "WO," or "WT."

PEST Analysis. This type of analysis is used to explore the political and legal (P), economic (E), social (S), and technological (T) aspects of a problem. Through this analysis, it can be determined which of these environmental factors has a direct impact on achieving the organization's objectives. Simultaneously, it can also lead to an understanding of the factor that has the most pronounced impact on the organization. Ultimately, PEST analysis helps identify factors that may become significant for the organization in the future (Cvetković, 2003).

Vector Analysis. This method condenses the results of the situational analysis by identifying all negative factors contributing to or causing the problem and all positive factors facilitating or contributing to its resolution. It assesses the actions of various internal and external forces from the perspective of whether they are negative or positive for the organization.

4. The role of research in public relations management

During the public relations management process, starting from the first phase, research takes a central place. In some cases, public relations experts conduct research themselves, while in others, specialized agencies handle this task. In both cases, public relations professionals must have a basic understanding of research processes and concepts. In other words, the question arises: How can someone explain something to others if they don't understand it themselves?

Although research processes vary from situation to situation, they share a common characteristic. The goal of every research endeavor is a deeper understanding of a specific social phenomenon or process. The choice of approach and methods depends on the problem itself, the researcher's skills and preferences, and the availability of resources. Before formulating a research program, it is necessary to find answers to questions such as:

What is the problem?
What kind of information is needed?
How will the research results be used?
Which specific public (or publics) need to be researched?
Will the organization conduct the research or seek outside assistance?
How will the data obtained from the research be analyzed, published, or applied?
Are the results urgently needed or not?
How much funding will be allocated for the research?

Based on the answers to the specified questions, public relations experts can gain an understanding of the breadth and nature of the necessary research. In certain situations (for example, when quick information is needed), only informal research may be conducted, significantly reducing costs. On the other hand, research can be based on the application of scientific methods when, for instance, determining a political candidate's current position in public opinion polls. Public relations departments are estimated to spend around three to five percent of their budget on research, although some experts argue that this figure should be ten percent.

Research for public relations purposes brings various benefits, such as:

gaining credibility with leadership,
defining policy and segmenting the public,
formulating strategy,

verifying decision correctness,
helping leadership stay informed,
preventing crisis situations,
monitoring competition,
influencing public opinion,
gaining publicity, and
evaluating success (Wilcox, 2010: 129-131).

There are different divisions of methods and research techniques. Research is most commonly divided into qualitative and quantitative. Quantitative research primarily relies on numbers and statistical methods. This research style is based on numerical measurements of specific aspects of the researched phenomenon. By abstracting individual cases, a general description or confirmation of hypotheses is achieved, with measurement and analysis methods designed so that other researchers can easily replicate them.

Quantification refers to measurement, statistical processing, and formal mathematical treatment. Examples of the application of quantitative techniques in the field of public relations include telephone surveys, mail surveys, intercept interviews in shopping centers, individual interviews, and panel studies.

On the other hand, qualitative research encompasses a wide range of approaches that typically do not use numerical measurements. Research of this style is focused on one (case study) or a small number of cases (comparative method) when, for example, intensive interviews or comprehensive ("in-depth") analysis of historical material related to the studied phenomenon are used. In practice, observation techniques and focus groups also find wide application in public relations research.

From the perspective of public relations, this section considers the division of methods into formal and informal (Katlip et al., 2006: 325). These authors draw a line between formal and informal methods in the practice of public relations. The mentioned research techniques differ in terms of sample selection method, sample size, and the level of generality of the obtained results.

4.1 Informal mehods

The advantage of informal methods in public relations research is most evident in identifying and examining problematic situations, as well as in preliminary testing of research and program strategies. The drawback of these methods is the insufficient representativeness of the samples used in these studies. This issue is addressed through the application of formal methods, i.e., methods specific to researching social phenomena and processes.

Numerous informal methods are used in public relations: (1) personal contacts, (2) key sources of information, (3) focus groups and social forums, (4) advisory committees and boards, (5) ombudsman, (6) telephone helplines, (7) mail analysis, (8) online sources, and (9) field reports (Katlip et al., 2006).

Focus Groups. Focus groups present a good alternative to personal interviews or face-to-face conversations. These groups typically consist of eight to twelve individuals representing the target audience, such as employees, consumers, or community residents. The technique involves a trained moderator using non-directive interviewing to encourage group members to freely discuss the topic or react honestly to suggested messages. The interview is usually conducted in a conference room, and the discussion, which typically lasts one to two hours, has an informal tone.

By definition, a focus group represents an informal research procedure that yields qualitative information instead of raw data. The results cannot be summarized in percentages or projected onto the entire population. Nevertheless, focus groups are useful because they help organizations structure messages or, at another level, formulate hypotheses and questions in quantitative research (Wilcox et al., 2006: 137).

This technique is frequently used in advertising, marketing, and public relations when determining the attitudes and motivations of relevant target audiences. Focus groups also aid in formulating or testing messages and communication strategies before launching the overall campaign.

Online Sources. Literature search (the most commonly used form of informal research in public relations) is increasingly based on analyzing material available within the organization (archival research) or the library collection (books, academic journals, and professional publications) and more on retrieving information from various databases containing a vast amount of data. The use of online networks has significantly increased in recent years.

Not only do they provide the same services as commercial online databases, but they also enable users to send emails, participate in chat groups on specific topics, leave messages on computer bulletins, and have unrestricted access to documents on the Internet, including the World Wide Web, which contains thousands of pages of individuals and organizations (Wilcox et al., 2006: 134).

For public relations practitioners, the internet represents a powerful tool for research. Online search engines have become the primary means of finding information on practically any topic on the internet, i.e., the World Wide Web.

4.2 Formal methods

The purpose of formal methods (or empirical research techniques) is to gather accurate data. The scientific nature of formal methods lies in their design for collecting data from representative samples. Every research, including in public relations, starts with a research goal, followed by an appropriate selection of formal methods.

Data are collected from primary and secondary sources. Data from secondary sources are useful both in finding necessary information to solve problems and in better understanding and explaining the research question. Most research projects begin with a thorough review of relevant literature, especially previous results achieved in the specific field. The first step in this activity is identifying relevant secondary sources (books, journals, proceedings from scientific conferences, etc.), while the second phase involves evaluating the usefulness of the content present in the collected sources. Sometimes, secondary sources provide enough information to resolve the research question. Hence, every research should start with data collection from secondary sources. If secondary data offer scant material for problem analysis, then primary data collection should continue.

In the field of public relations, gathering information from secondary sources often involves searching online databases. Content analysis also has widespread use in collecting secondary data

Content Analysis. This method represents a particular form of quantitative empirical research aimed at determining the presence of specific ideas, conceptual trends, their proponents and opponents, and most often, the predominant discourse in a particular area of social life. Content analysis includes elements of qualitative research as well, given that every content analysis must begin with clear category identification.

This research procedure can be relatively informal or quite scientific in terms of random sampling and establishing specific topic categories. It is often applied to articles containing news about an organization. At a basic level, a researcher can collect clippings of news articles in a notebook and measure the column size in newspapers dedicated to news about the organization (Wilcox et al., 2006: 135).

Through content analysis, one can describe, understand, and even predict the phenomenon being studied. However, there is a common division of content analysis methods into those that primarily aim at description (so-called manifest content analysis) and those focused on interpretation, namely the interpretation of the observed phenomenon (semiotic content analysis), where assigning meaning to observed phenomena is the primary task.

Factual material (specific terms, words, sentences, themes, visual content, etc.) is drawn from various sources such as books, journals, reports, minutes, internal analyses. Content analysis can also be applied to letters and phone calls. This method provides valuable feedback on issues related to the organization's policies and services. Specifically, the pattern of letters and phone calls can indicate a problem.

Survey. Survey, as one of the methods for collecting primary data, represents a systematic investigation of a population. Surveys can be conducted using various measurement instruments - surveys, interviews, or tests. In public relations practice, surveys are most commonly used. The goal of each survey is to obtain scientifically relevant information that can be used to analyze attitudes, opinions, beliefs, convictions, and value systems. Information gathered through the survey process enables the acquisition of new knowledge about the research problem by describing it (which is the most common case), understanding it, and if possible, establishing causal relationships and connections. This last aspect is the goal of every research, with scientific research, understood in a purely positivist sense, also implying the ability to predict future occurrences and processes related to the investigated phenomenon.

Survey types vary depending on (1) their purpose, (2) the method of contacting respondents, and (3) the time period during which they are conducted.

Purpose of Surveys. In terms of purpose, surveys are used to describe or explain the researched phenomenon. Descriptive surveys document certain states of public opinion, behavior, or characteristics of the population at a specific point in time. Public opinion polls, for example, provide information about the current state of people's attitudes on a particular issue. Descriptive surveys are often used in business studies to understand employee behavior regarding motivation, job satisfaction, or disciplinary actions. Analytical surveys aim to delve into the characteristics of relationships between variables.

Surveys that aim to explain the researched phenomenon are not limited to collecting purely descriptive data but also conduct measurements of variables whose relationships can be analyzed. For example, a survey can assess the level of purchasing a product and the degree of association linking increased sales to a recently conducted advertising campaign for that product.

Surveying is the most popular method for collecting data in business studies, and the main types of questionnaires (as already highlighted in the introduction of this section) used are descriptive and/or analytical questionnaires. After determining the research question and clearly defining the purpose of the study, the type of survey to be conducted is determined: analytical or descriptive. Different surveys lead to various problems and questions, so there is a need for different types of planning.

Data collection through surveying techniques is done through surveys (questionnaires) and conducted interviews. The main methods for administering a survey are through mail, telephone interviews, face-to-face interviews, group surveys of respondents, and, more recently, over the internet. Mixed and multiple survey methods can also be applied. The former refers to a situation where respondents have multiple ways of answering, while the latter allows individual sample members to respond in specific ways (e.g., by phone or via the internet). Generally, three factors crucially influence the choice of survey method: sample size (target group or random sample), questionnaire content (simple or complex), and survey cost. In most cases, the third factor is of least importance unless it involves a face-to-face interview.

Mail Surveying. Conducting a survey by sending questionnaires through mail requires a predefined sample of respondents. Respondents are asked to complete the questionnaire independently and return it in a pre-addressed envelope. In this case, incentives are usually provided to encourage respondents to complete and return the questionnaires. Such incentives can be in the form of money, gifts, or participation in a prize draw. The rate of returned responses represents a measure of respondent cooperation. Cooperation can be increased by providing gre-ater personalization by the researcher, i.e., providing a series of significant information from the project organizer's past. Experience shows that respondents read information of this nature.

Low respondent response rates remain the biggest problem with mail surveys.

A questionnaire sent by a commercial company to the general public typically has a response rate of 1 to 2 percent. If the survey pertains to issues of importance to the general public, the response rate can range from 5 to 20 percent. A much higher response rate is obtained when an organization sends a questionnaire to its members. In this case, the response rate can be from 30 to 80 percent (Wilcox et al., 2006: 143).

Postal questionnaires must be self-explanatory, easy to follow, and brief. They are suitable because they can cover broader geographic areas and reach respondents who live in remote areas that would be difficult or costly to reach or send an interviewer to. Such surveys also ensure complete anonymity, making it more likely that respondents will answer more truthfully to sensitive questions. However, a weakness is that the researcher has no control over how the respondent completes the survey. Namely, the researcher cannot be sure whether the respondent filled out the questionnaire alone or with the help of another person. Postal surveys are also characterized by the slowest respondent response, and there is no control over how quickly respondents answer.

Telephone Interviewing. Conducting surveys through telephone interviews involves trained individuals conducting interviews with randomly selected respondents from the phone directory. Some telephone surveys are conducted with pre-selected respondents who are unlikely to respond to a mail-delivered questionnaire or are difficult to access for face-to-face interviews. This primarily includes politicians, business people, and journalists.

Unlike mail surveys, telephone conversations allow greater control over respondents, and much higher response rates are obtained. If the questionnaire is well-designed and the telephone interviewers are well-trained, the response rate can range from 80 to 90 percent.

Since telephone surveys must be short, telephone interviewing is not a suitable method for collecting data for more in-depth ('deep') research. There are also limitations regarding the types of questions that can be asked. For example, questions with multiple-choice answers are not suitable for telephone surveys.

The advantage of telephone interviewing lies in the personal nature of the phone call, effective communication, and its cost-effectiveness compared to face-to-face interviews. Experience shows that many people are willing to spend up to 45 minutes on a phone conversation, whereas at their doorstep, for example, they do not want to stand for more than 5 to 10 minutes and are reluctant to let strangers into their homes.

Interviewing in Person. Face-to-face interviews can be conducted in a research institution, on the street, at the respondent's workplace, or in their home. There are two main types of interviews: structured (where the wording of questions and the order in which they are asked remain unchanged in each case) and unstructured, which is essentially similar to an informal conversation. Data from structured interviews are usually considered more important and reliable. The interviewer must identify potential respondents based on so-called 'filter questions' to determine whether the selected individuals truly belong to the target group being studied for a specific phenomenon. Filter questions must be brief because it is common for most people to show some aversion to researchers during such contacts.

A personal interview is undoubtedly the most expensive form of research as it requires trained staff and travel. A trained interviewer is expected to interview eight to ten people during a day, and there are also transportation costs. Therefore, various variants of unstructured interviews are increasingly being applied, such as the 'intercept' interview.

Many public relations agencies, in an effort to explore public opinion and attitudes, conduct short conversations (from two to five minutes) with people in shopping centers or at meetings. This type of research is called an intercept interview because people are literally intercepted in public places to express their opinions on a topic. Although this form of interview is not scientific as it does not use statistical sampling methods, it can help an organization gain insight into existing opinions or convey key messages.

Group Surveying. Group surveying is a procedure that combines aspects of mail surveys and interviews. It is conducted simultaneously with an entire group of pre-selected respondents who, in the presence of an interviewer, complete a questionnaire. The location of the questionnaire can be a research institution, a hotel conference room, a classroom, etc.

Timing of the Surveys. Surveys can be conducted at a single point in time or can be repeated over time. In the first case, it is a cross-sectional survey. The second case refers to longitudinal research.

The first type of research is most commonly applied because it provides insights into public opinion, knowledge, understanding, or behavior at a given time. Cross-sectional surveys mainly contain descriptive records, but they can also analyze relationships between variables, thus understanding the nature of the relationship between variables; for example, the correlation between media exposure and behavior.

Longitudinal studies are much less frequently conducted. As mentioned earlier, surveys of this type involve obtaining data at different points in time. This data can be obtained from the same group of respondents or from different respondents. Longitudinal studies are divided into trend studies, cohort studies, and panel studies.

Trend Studies. These studies are the most common type of longitudinal research in the media field. The sample in trend studies consists of different groups of people from the same population at different times. This form of analysis is often used during elections. The sample of respondents is surveyed before, during, and at the end of the election campaign to determine their voting intentions and attitudes towards candidates and their programs. Such studies reveal short-term and long-term regularities in public opinion and behavior. They can indicate changes in behavior over time and correlate these changes with specific media events and changes in respondents' attitudes towards the media.

Researchers in trend studies can either generalize their own results or use data from secondary sources originally designed for other purposes. When using secondary data sources, it is important that data from different time periods always come from the same source and that there is as much consistency as possible in the questions asked at different times. Any differences in question formulation or fluctuations in sample composition make the data non-comparable, thus invalidating the trend study.

Cohort Studies. A cohort is any group of individuals connected in some way or who have experienced a significant life event during a given period. If that life event, for example, is birth, then it is referred to as a birth cohort. Cohorts can be identified in terms of education (for example, all children starting school at the age of 6 at a given location), marital status, etc. Any study involving measuring the characteristics of one or more cohorts in two or more different time periods constitutes a cohort analysis. Cohort analysis aims to identify cohort effects. In other words, it determines whether changes in the dependent variable are due to aging or if they are present because the sample members belong to the same cohort.

Let's assume that a sample of respondents composed of five-year-old children watches TV for two hours every day, while a group of eight-year-olds watches TV for four hours a day. Are these differences in TV viewing time due to the age of the children or are they conditioned by other differences between these two samples? One way to find an explanation would be to track these two groups over the next three years and pay attention to whether five-year-olds, as they approach their eighth birthday, spend more time watching TV. If they do, then it can be concluded that these are age-related phenomena.

Cohort analysis is a flexible technique that can show whether changes in attitudes or behavior are influenced by aging or other social and cultural factors. However, the main drawback of this technique is that specific effects of age, cohort, and the period in which the analysis was conducted are not suitable for complete statistical data processing. Differences between groups examined at different times may be more a function of changes in the nature of the sample being studied rather than the effect of elapsed time. Controlling for the effects of such factors can be challenging, especially if the researcher uses data from secondary sources over which they have no control.

Panel Studies. This type of research is used to measure certain characteristics of the same sample of respondents at different points in time. Panel studies can reveal information about both differential and overall changes in the dependent variable. Panel studies can be conducted through mail surveys, telephone interviews, or face-to-face interviews. Television stations, advertising agencies, and large companies use panel studies to monitor changes in consumer behavior. This technique can indicate changes in attitudes and behaviors that might otherwise go unnoticed using other research methods.

Depending on the study's purpose, researchers may use either a continuous panel, consisting of members who regularly report specific attitudes and behaviors, or an interval panel, whose members agree to complete a certain number of questionnaires or other instruments (e.g., diaries) only when information is needed. Panel studies provide data suitable for sophisticated statistical analysis, and researchers can identify cause-and-effect relationships.

Panel studies come with certain challenges. Selecting members for panel groups is difficult because pe-ople are generally reluctant to participate in repeated surveys. Panel erosion occurs when panel membership changes over time due to individuals dropping out. This is known as "sample mortality." This attrition undermines the panel's continuous representativeness. Another drawback is the panelists' ability to approach each new survey during the entire study period as if previous surveys had not existed, known as "sensitization." These problems are challenging to avoid, leading to changes in respondents' answers as a function of previous interviews.

Compared to the classical experimental approach, surveys and interviews with respondents represent a type of research that can be conducted in the field. Such surveys can be useful both at the beginning of research and in the advanced stages of work on a research problem. These surveys extract information from people under real conditions in the context of everyday life.

The most significant difference between surveys and interviews lies in cost. Comprehensive surveys involving hundreds of respondents would be much more expensive if interviews were chosen as the measurement instrument. Interviews, on the other hand, are more flexible compared to surveys. Interviews are considered more suitable for qualitative research, while surveys are suitable for quantitative research styles.

5. Conclusion

This paper has considered only some of the methods used to collect quantitative and qualitative information to define the problem situation as precisely as possible. Research is closely related to the first phase of public relations management, namely situation analysis.

However, research is not only necessary for the implementation of the first phase of public relations management. Research methods are also used to monitor programs and evaluate program success. Research essentially functions as a management function in public relations. The primary purpose of research in public relations, like other business functions, is to reduce uncertainty in decision-making.

In PR practice, despite the immense importance of research for various areas of this business function, insufficient attention is paid to project planning. This can be attributed to various reasons. Sometimes employers or clients believe that research is not necessary, and in some situations, PR employees do not know how to create and conduct a research plan. Research methods, therefore, when it comes to academic education of PR professionals, should become a mandatory part of the curriculum.

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METODOLOGIJA I METODI ISTRAŽIVANJA U ODNOSIMA S JAVNOŠĆU

Sažetak: Najnapredniji oblik odnosa s javnošću predstavljen je naučno vođenim procesima rešavanja organizacionih problema i procesima promena. Ovaj rad razmatra neke od metoda koje se koriste za prikupljanje kvantitativnih i kvalitativnih informacija radi što preciznijeg definisanja problemske situacije. Primarna svrha istraživanja u odnosima s javnošću, kao i u drugim poslovnim funkcijama, jeste smanjenje neizvesnosti u donošenju odluka. Rad prvo ispituje mesto istraživanja u različitim modelima odnosa s javnošću. Zatim objašnjava prvu fazu procesa upravljanja odnosima s javnošću - analizu situacije - gde se istraživačke aktivnosti posebno ističu. Drugi deo rada fokusira se na metode, kako formalne tako i neformalne, koje se često koriste u praksi odnosa s javnošću.

Ključne reči: OSJ, Metodologija, metoda, komunikacija

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THE IMPORTANCE OF ETHICS IN ACCOUNTING AND AUDITING PROFESSIONS IN SERBIA

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Abstracts: In recent times, the concept of business ethics has been getting increasing importance in modern market economies as the result of the large number of detected unethical business activities. Accounting and auditing are the professions of extremely high ethical sensitivity. In order to be able to produce reliable, high-quality financial statements and to maintain both their professional and personal integrity, accountants and auditors have to resist the pressure put upon them by the market and by their clients. Ethical and professional conduct of accountants and auditors is significant for estimating their credibility and quality of their work. The subject of this paper is the need for constant improvement of competences and skills which accountants and auditors must have in order to satisfy increasingly challenging requirements of modern environment. With reference to that, the paper presents the concept of professional ethics, accounting and auditing professions as well as the Code of Ethics in Accounting and Auditing Professions.

Keywords: professional ethics, accountancy profession, auditing profession, code of ethics

1. Introduction

Ethical conduct is very important in many professions. In accounting and auditing professions, application of ethical standards is an imperative, first and foremost because clients' confidence in financial statements. Accountants need to provide accurate and reliable information on clients' businesses, so consequently they need to comply with ethical standards in their work. Certified accountants are obliged to pay attention to accuracy, reliability and confidentiality of acquired information as it represents basis for corporate decision making. Unethical presentation of information about audited entity's profit, assets and financial status may result from errors in bookkeeping, but also from incorrect financial statements. Consequences of inaccurate information contained in low-quality financial statements may be extremely unpleasant, which is why accountants are expected to conduct their engagement with the utmost professional and ethical standards and with public interest in mind. Auditing first appeared in the private sector and was related to concern about fraud resulting from theft and misappropriation of property. Auditing is significant as it plays major role in exposing frauds, errors and irregu-larities in financial reporting. (Mitrovic, Knezevic, Milasinovic, 2022, p.73) Auditor's primary objective is to express an independent and professional opinion as whether financial statements of the audited entity have been made in compliance with international accounting standards and valid legal regulations. Unreliable financial statements could harm all interested parties. In view of that, professional associations have developed a set of ethical rules as protection for auditing profession and as assurance that auditors perform their job with high ethical awareness.

2. Business ethics and contemporary business environment

Ethics can be defined as a set of moral principles, rules of conduct and values. Ethics has a broad social significance considering it is one of the anchors of the modern society (Šabić, Tufegdžija, 2019; Dašić, Milojević, Pavićević, 2020). Any organized society must be founded on ethical behaviour of its members. The need for ethical conduct is so fundamental that there is an ongoing tendency to include ethics into legal regulations (Dašić, Jeličić, 2016). In time of globalization and enhanced technological development, but also more prominent ecological and economic crisis, intensification of the role and significance of business ethics is particularly important. The results of latest research in this area show that ethical issues affect not only public and private businesses, but also the media and a non-profit sector. Ethics is not only important in businesses, but in daily life as well. Without ethical conduct, businesses are doomed to fail sooner or later. They must run in compliance with moral criteria and be focussed on accomplishment of permanent, stable and significant results, without prioritizing profit. However, there are many examples worldwide where the lack of ethics in business operations leads to severe consequences for businesses but also for the society, as businesses lose their credibility and society suffers economic damage. Business ethics is constantly facing new challenges. It is a rather new academic discipline that was introduced in the last few decades. However business ethics cannot be fully comprehended without knowing its essence. Ethics is a set of moral guidelines that are assuming great importance in modern business environment. Moral is defined as a set of norms, rules and practices that guide people's choices and behaviour. Ethics is the analysis of the substance that makes people' behaviour good or bad, right or wrong. It encompasses evaluation of rightness or wrongness of a decision or event, taking certain values as standard for such claims. (Mautz, 1991, p.53) The essence of ethics are values that describe desirable states and behaviours. Values can be described as guidelines for desirable conduct, but also as criteria for valuing someone's behaviour as ethical or unethical. It is important to note that in addition to universal values, acceptable in any society and culture, there are also values specific for a particular society or a group. Such society-specific values, together with education and socialization, represent a foundation for shaping individual values of each person in that society. In conditions of globalization, it is necessary to incorporate ethical behaviour into values that are shared and acceptable by all societies, allowing for society-specific values and customs (Dašić, et al., 2021). Concept of values can be static or dynamic, which implies that beside stable, permanent values there are also those that are easily changed. There is also the issue of ethical dilemma that individuals or groups of individuals face in a society. Ethical dilemma is the situation in which individuals must decide which behaviour is acceptable, i.e. they must choose between different actions, whereat the correct choice is not absolutely clear, and will affects other people's wellbeing. Same applies to the concept of ethics in accounting and auditing in financial reporting domain. Ethical principles of financial reporting are based on choosing the main positive human traits and professional knowledge, on applying that knowledge in objective reasoning and conclusion-making, on proven integrity and professional conduct.

In some professions, including accounting and auding, general theory of ethics is used as foundation for ethical conduct, choices, justification and qualities. Values related to responsibility to public, complex knowledge, professional requirements and public trust are shared by these professions. Basic structure of ethical conduct implies responsibility for fulfilling personal needs and obligations in line with professional choice, but also responsibility for complying with legal requirements and society regulations imposed by external factors. (Todorović, 2018, p. 62)

Alignment of professional conduct of individuals, their moral values and legal regulations, is a necessity that allows for public confidence in quality of their professional services, so that their clients can be worry-free. Users of financial statements must trust the work of accountant and auditors. (Mitrovic, Knezevic, Milasinovic, 2022, p.73).

The Code is not a simple manual of pragmatic techniques for professional conduct, but the list of theoretical and practical instructions for anyone trying to do business properly, successfully and professionally, allowing for the need for extensive knowledge and education but also for moral integrity and creativity as highly significant factors. The Code is merely a benchmark, an indicator as how to steer activities with satisfying some basic realistic norms. The Code contains norms that regulate professions, i.e. accounting and auditing professions in this actual case, as well as accountants' and auditors' conduct, both public and private, their knowledge of rules of profession and their professional ethical norms. In that way the Code governs the practice only. It is, in fact, an axiological sphere, a broad scale of values presented as codes. Some of the values set by the code include knowledge, education, success, ability, common sense, clarity, prudence, experience, skilfulness, integrity, truthfulness, justness, diligence, honesty, confidentiality, patience, endurance, caution etc.

3. Ethics amd accounting

Ethics can be defined as a set of moral principles compulsory for some professions. (Milojevic, 2007, p. 44) It particularly applies to doctors, lawyers, accountants and auditors. Ethics for accountants can be defined as a set of generally accepted moral norms based on ethical values and needed for making financial statements and presenting financial information related to a particular institution or a company. Crucial objective of accounting is to monitor, examine and record the financial changes in organization's operating and, based on that, to prepare and make financial statements for internal and external users that would serve as basis for business decision-making. (Skandro, 2020, p. 195) From the aspect of ethics, accounting is among the most demanding professions. It could not exist without the ethics. (Stojanovic, 2010) Consequently, it is very important for decision makers to be able to rely on realistic and fair reporting. In any company, accountants are the ones that are most often required to provide information that financial managers need for making decisions on company's liquidity and also to provide advisory information concerning taxes. (Accounting Professional and Ethical Standards Board, 2017)

In line with the aforesaid, transparency is an imperative for the accountants, because the information on company's operating is of interest for a broad group of stakeholders. With the aim of providing transparency and comparability of financial reports, companies have the obligation to comply with legal regulations that control the application of International Accounting Standards and International Financial Reporting Standards. (Skandro, 2020, p. 196)

Ethics is an important element of the accounting profession. Worldwide codes that accountants must comply with are the AICPA Code of Professional Conduct in the USA and Code of Ethics for Professional Accountants of the International Federation of Accountants (IFAC). In Serbia, the Code of Ethics for Professional Accountants *applies.* "A distinguishing quality of accountancy profession is the responsibility to act in the public interest". (Milutinovic, Karapavlovic, 2019, p. 63)

International Federation of Accountants (IFAC) acts in the public interest by contributing to the development of strong and sustainable organizations, markets and economies. It stands for transparency, accountability, and comparability of financial reporting, supports the improvement of accounting profession and proclaims the significance and relevance of accountants for the global financial infrastructure. It was founded in 1977 and comprises over 175 members and associate organizations in over 130 countries and jurisdictions, so it represents approximately three million accountants in public practice, education sector, civil services, economy and trade. (Todorovic, 2018, p. 79)

The International Ethics Standards Board for Accountants (IESBA) adopted the Code of Ethics for Professional Accountants. Organizations of professional accountants, members of IFAC, translated the Code into their native languages and those translations were published. (https://www.iaasb.org/, accessed on 10.04.2024) Professional accountants are people who perform accounting, auditing, consulting, taxation and similar activities for companies and other organizations. The table shows the standards of ethics according to IESBA and AICPA Codes, respectively. (Skandro, 2020, p. 196)

Table 1. Presentation of standards of ethics according to IESBA and AICPA Codes

Classification of standards according to IESBA Code of Ethics	Classification of standards according to AICPA Code of Ethics
1. Integrity	1. Responsibility
2. Professional competence and due care	2. Public interest
3. Confidentiality	3. Integrity
4. Professional conduct	4. Objectivity and independence
	5. Due care
	6. Scope and nature of services

Source: Ramljak, B., Rogosic, A., Perica, I., Ethical Behaviour of Professional Accountants, Oeconomica Jadertina, 2/2016 p. 49-64

In order to be applicable to financial reporting, professional principles of ethics need to be based on the selection of superior moral qualities, relevant professional knowledge, use of knowledge in objective reasoning and proven credibility. (American Institute of Certified Public Accountants, 2018) In providing professional services, professional accountants need to abide by main ethical principles and valid professional standards, while potential violations and disrespect of ethical norms should be handled by disciplinary body. It is inevitable that the specifics of accounting and auditing services require that professional ethical principles pertaining to professional accountants in general are distinguished from those pertaining to professional accountants in public practice. With reference to that, the IFAC Code of Ethics can be classified into: (Adapted from: Stojanovic, 2015, p. 55)

- Part A – applies to general application of the code,
- Part B – applies to professional accountants in public practice, or auditors and
- Part C – applies to professional accountants in business.

4. Ethics and auditing

The second part of IFAC guidelines applies only to accountants in public practice - auditors. A professional accountant in public practice is any partner or a person occupying a position similar to that of a partner, any staff member providing professional services to a client, regardless of functional classification (e.g. auditing, taxation service and other consulting) as well as a professional accountant with managerial responsibility. (Accounting Professional and Ethical Standards Board, 2017) Ethical guidelines for professional accountants in public practice include the following areas: independence; responsibilities to clients such as remunerations, commissions and payments relating to a client; responsibility to colleagues, such as relations with other professionals, marketing and activities incompatible with practice. (https://www.iaasb.org/ accessed on 11.04.2024) Independence is the most important ethical principle for an accountant in public practice, so before analysing IFAC principles of independence, it would be useful to consider the term independence in international context.

Basic principles required for accomplishing ethical objectives are integrity, objectivity, professional competence and due care, confidentiality, professional conduct and technical standards. (The International Accounting Education Standards Board, 2020) The IFAC Code of Ethics does not provide additional guidelines on integrity principle, but explains in more detail objectivity, professional competence and due care, confidentiality and professional conduct (taxation services and publicity). It also provides guidance on how to resolve ethical conflicts and how to conduct cross-border activities. The first part of the IFAC Code of Ethics for Professional Accountants provides guidelines for independence, responsibility to clients such as remuneration for professional services, commissions and payments relating to a client, and responsibility towards colleagues such as relations with other professionals, marketing and activities incompatible with practice. Independence in audit implies having unbiased opinion when performing auditing tests, results analysis and giving assurance that the financial statements in audit report are correct, credible and made in compliance with generally accepted accounting standards and regulations. Since the main result of attestation is to confirm credibility of financial information in the form of audit report, not only must the accountants maintain independence in performing their duties and responsibilities, but also the users of financial reports must have confidence in that independence. Those two objectives are typically known as "independence of mind" and "independence in appearance". Independence of mind implies the state of mind that permits the accountant to maintain unbiased and objective attitude throughout accounting process, while independence in appearance presents the result of interpretation of that independence by the third party. In order to provide services to the client, a professional accountant must be able to act independently and objectively and must possess necessary technical skills required by the profession. Concerning responsibility to the clients by the professional accountants in business, IFAC guidelines deal with issues of remuneration for performed professional services, commission and payments relating to the client. Guideline that refers to responsibility of professional accountants in business to their colleagues includes relationships with other professional accountants, marketing and other activities incompatible with practice. (https://www.iaasb.org/publications/2022-handbook-international-quality-management-auditing-review-other-assurance-and-related-services, accessed on 12.04.2024)

Independence – When auditors accept audit engagement in which they shall submit a report, they must have independence of mind. That independence results from their conduct. Independence is considered as threatened: (Code of Ethics for Professional Accountants, 2016, 47)

- When auditor has or accepts the right to hold a direct material and financial interest in an audit client,
- When auditor was a partner in business, a Board member or employed by the audit client,
- When auditor provides other services to the audit client, managerial activities in particular,

- When an independent approach to engagement is threatened by personal or family relationships,
- When the audit firm income received from any one client makes a large proportion of the total income of that audit firm,
- If auditor accepts goods and services from the client,
- In case of ongoing or potential lawsuit between the audit firm and audit client,
- In case of long-term relationship of audit firm staff with the audit client.

Professional caution – Auditors should refrain from accepting engagements that require professional services that they are not qualified for, except when they can obtain competent advice and assistance and thus perform the services in a satisfactory manner.

Remunerations and provisions – Auditors providing professional services to the clients assume responsibility to perform those services fairly and objectively in compliance with the relevant standards. Auditors are entitled to remuneration for the services performed.

Activities incompatible with public accounting practice – Auditors must not be simultaneously engaged in any other work or activities that threaten their integrity, objectivity and independence or professional reputation. Such activities are therefore deemed incompatible with professional services.

Custody of client's assets – In some countries the law does not allow auditors to have custody of client's assets. In countries where that is allowed, auditors must adhere to relevant legal regulation. Auditor entrusted with client's assets should: (Code of Ethics for Professional Accountants, 2016, p.188)

- Keep those assets separately from personal or firm assets,
- Use such asses only for their intended purpose,
- Be ready at all times to account for those assets to any persons entitled to such accounting.

Relationship with other professional accounting experts in public practice – acceptance of new engagements – auditor replacement. The first case results from constant expansion of the assortment of services provided by auditors, so knowledge needed for providing services to the clients often requires engagement of a specialist. A client or the existing auditor might ask for the services or knowledge of other auditor who has special knowledge. The engaged new auditor should limit his or her services to the actual tasks received by the existing auditor or a client, unless otherwise requested by the client. The second case occurs when the client requires a replacement of the existing auditor. Auditor asked to replace the existing auditor must determine whether there are any reasons to reject the engagement, which cannot be effectively done without direct communication with the existing auditor.

Marketing and approach to potential clients - Marketing and approach to potential clients should be defined by a professional organisation that is a member of IFAC, in dependence on legal, social and economic conditions in each country, respectively. Marketing and approach to potential clients have the purpose of offering information to the public in an objective, decent, honest, truthful and tasteful manner.

5. Implementation of ethics in audit firms in the Republic of Serbia

In the Republic of Serbia, the Law on Auditing (Official Gazette of the Re-public of Serbia no. 73/2019) has been in force since 01.01.2020. This Law set the foundations for implementation of professional ethics for licenced certified auditors and audit firms, as well as for making a Transparency report. As defined by the law, audit firms are obliged to act in compliance with the principles of professional ethics which, as a minimum, include their role of public interest, their integrity and objectivity, professional expertise and due care. According to the article 28 of this law "Audit firms and licensed certified auditors should ensure that, when conducting a statutory audit, they maintain professional scepticism during the audit, considering the possibilities of material misstatement of items due to the facts or behaviour that indicate irregularities, including fraud or error, regardless of the previous experence of a licensed certified auditor or audit firm concerning honesty and integrity of the auditee's management and persons in charge of auditee". (Law on Auditing (Official Gazette of the Republic of Serbia no.73/2019, article 28).

Additionally, in compliance with the Law on Accounting, article 53, a National Commission of Accounting was established and one of its responsibilities is to monitor the implementation of IFRS and IFRS for SMEs and to propose solutions for potential problems that might arise during implementation of those standards. (Law on Accounting, Official Gazette of the Republic of Serbia no.73/2019 and 44/2021)

Pursuant to data published on the website of Chamber of Authorized Auditors, on the territory of the Republic of Serbia auditing is performed by 75 audit firms and certified licensed auditors. (https://www.kor.rs/Registri.asp, accessed on 09.04.2024) Transparency Reports for 2022 were submitted by 17 of them. Using random sampling method, we have selected 3 audit firms that will be presented in further text:

Deloitte d.o.o.

According to the Code of Conduct, all employees of Deloitte are expected to act in compliance with high ethical standards and integrity. This Code describes and explains each individual's responsibility to the clients, colleagues and society as a whole, as well as respect for and commitment to ethical standards. In addition to the Code of Conduct, important element of the ethical program of Deloitte Serbia is education and communication program, together with established reporting channels supported by defined incident management protocols. Procedures are such that they provide reasonable assurance that the employees comply with relevant ethical requirements. (Deloitte Serbia Final Audit Transparency Report_2022_without Appendix D_Signed_SRB.pdf, p.23)

In Deloitte Serbia, ethics is managed by the Ethics Manager. Ethical requirements for audit and related assurance services provided by Deloitte Serbia are in line with the requirement of the Law on Audit of the Republic of Serbia and other regulations that define auditing.

Deloitte Serbia acts in compliance with its policies and procedures that are aligned with the requirements and guidelines defined by the Code of Ethics for Professional Accountants issued by the International Ethics Standard Board for Accountants, a standard-setting body of the International Federation of Accountants (IFAC). In case that professional requirements of the Republic of Serbia are more restrictive than procedures and policies of Deloitte, Deloitte Serbia shall comply with valid national requirements. It is obvious that Deloitte works on reaffirming its commitment to ethics and integrity by using communication tools, education programs, processes for alignment with regulations and standards and evaluation system compulsory for all employees. Education programs comprise targeted contents for introducing new employees to the company values, promotion of managers, executors and refresher programs every two years. Training courses were organized on the following topics:

acknowledgement of one's own mistakes, management of personal relationships at work, manifestation of respect, integrity and professionalism in social media etc. Deloitte Serbia controls ethical conduct of senior managers and requires its partners, other professionals and the entire staff to confirm, on annual basis, that they have read and understood the Code of Conduct of Deloitte Serbia, and that they understand that they are responsible for full compliance with the Code. Deloitte's principles of business conduct define Deloitte's tendencies and expectations and have a strong foundation in ethical principles. Ethics Program includes following elements: (Deloitte Serbia Final Audit Transparency Report_ 2022_without Appendix D_Signed_ SRB.pdf, p.24)

- Principles of business conduct,
- Ethics policies
- Reporting channels and incident management protocol,
- Program evaluation via annual ethics survey,
- Annual evaluation and regular business control program, and
- Education programs and communication concerning ethics.

KPMG d.o.o.

KPMG d.o.o. Belgrade has a partner for ethics and independence (Ethics and Independence Partner - EIP) whose primary responsibility is to direct and execute policies and procedures for ethics and independence in KPMG d.o.o. Belgrade. EIP is accountable for communicating and implementing policies and procedures of KPMG International, and also for supervising establishment and successful implementation of local policies and procedures in case they are more demanding that the requirements of KPMG International. EIP carries out its responsibility by: (https://assets.kpmg.com/content/dam/kpmg/rs/pdf/2023/04/KPMG-Izvestaj-o-transparentnosti-2022.pdf, p.18)

- Implementing/supervising control processes concerning the quality of ethics, independence and structure within company;
- Approving/appointing partners responsible for ethics and independence in the company;
- Supervising control processes that involve estimate of specific threats to independence concerning clients or potential clients;
- Participating in development and presentation of training material;

- Implementing measures for resolving the cases of non-compliance with the policy, and
- Supervising disciplinary procedure for ethics and independence.

Changes of KPMG International's policies regarding ethics and independence are a regular part of company's declarations on risk and quality of all KPMG companies. Member firms are obliged to implement changes in the manner described in declarations, and verification is done by internal control programs.

Partners and employees of KPMG d.o.o. Belgrade have the obligation to consult EIP on certain topics as defined in Global Quality and Risk Manual. Consultation of EIP Global Independence Group may also be required, depending on facts and circumstances.

PricewaterhouseCoopers d.o.o.

PricewaterhouseCoopers d.o.o. (PwC) complies with fundamental principles of the Code of Ethics for Professional Accountants (Code IESBA) of the International Ethics Standards Board for Accountants (IESBA), which comprise: (https://www.pwc.rs/sr/about-us/assets/Izvestaj-o-transparentnosti-2022-PwC-Srbija.pdf p. 20)

- Integrity – being straightforward and honest in all professional and business relationships,
- Objectivity – not allowing bias, conflict of interests or improper influence to impact professional or business judgement,
- Professional competence and due care – maintaining professional knowledge and skills on the desired level so as to assure that service provided to the client and the employer is competent, professional and based on up-to-date achievements in practice, legislation and techniques; also, working diligently in compliance with applicable professional standards,
- Confidentiality – complying with the principle of confidentiality of information acquired by professional and business relationships and, compliant to that, not disclosing any such information to third parties without a special and relevant approval unless there is legal or professional right or obligation to disclose it, and not using that information to personal advantage of professional accountant or third parties.
- Professional conduct – acting in compliance with relevant legislation and regulations and avoiding any activity that might discredit the profession.

Network standards cover a range of areas including ethics and professional conduct, independence, prevention of money laundering, the right to market competitiveness, prevention of corruption, data protection, taxes of company and partners, sanctions laws, internal audit and trading based on privileged information. All employees are obliged to participate in annual compulsory trainings and to submit annual confirmations on independence as part of the system that supports correct understanding of ethical requirements. Partners and employees are committed to standards developed by PwC firm network, and management of firm PwC Serbia supervises compliance with those standards.

6. Conclusion

Ethical challenges exist in all domains of scientific research (Dašić, et al., 2023), and this paper is focused on accounting and auditing domain. Attitudes and opinions on ethical dimension of modern accounting and auditing profession pinpoint several issues: ethical expectations by the accounting information users and public, ethical environment in organization and ethical conduct of the accountant and auditor. Potential for violation of ethical standards is recognized in data processing phase in financial accounting and in the phase of using old records for the needs of management. In order to reduce the possibility for occurrence of circumstances that would stimulate unethical conduct, organizations are developing internal control system, implementing internal audit and ethical values management system. Professional organizations have their codes of ethics, but they are not sufficient to assure accountant's and auditor's integrity protection. In accounting profession, the major focus is on ethical conduct of accountants and auditors, especially their personal integrity and objectivity. Good ethical setting in a business entity is not easily organized without applying the code of ethics, which is a necessary but not a sufficient prerequisite, because without high moral and ethical awareness of employees, without knowing ethical requirements and non-compliance sanctions and without supervision and control by professional bodies, it is impossible to have good ethical environment.

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Ekonomski signali, 2024, 19 (1): 089-106

VAŽNOST ETIKE ZA RAČUNOVODSTVENU I REVIZIJSKU PROFESIJU U SRBIJI

Sažetak: U poslednjim godinama u modernoj tržišnoj ekonomiji sve se više pažnje posvećuje pitanju poslovne etike, zbog pojave sve većeg broja otkrivenih neetičkih radnji u poslovanju. Računovodstvena i revizijska profesija predstavlja jedno od etički najosetljivijih poslovnih područja. Računovođe i revizori se moraju odupreti pritiscima sa tržišta, pritiscima klijenata koji ih angažuju, čime bi na kvalitetan i pouzdan način prikazivali finansijske izveštaje, štiteći pritom ugled svoje profesije kao i lični ugled. Etičko ponašanje i profesionalizam od strane računovođa i revizora značajno je za procenu verodostojnosti i kvaliteta njihovog rada. Predmet rada jeste potreba za konstantnim unapređenjem kompetencija i veština računovođa i revizora kako bi ispunili očekivanja koja su u savremenom okruženju sve izazovnija. S tim u vezi u radu je prikazan pojam profesionalne etike, računovodstvena i revizijska profesija kao i Kodeks etike u računovodstvenoj i revizijskoj profesiji.

Ključne reči: profesionalna etika, računovodstvena profesija, revizijska profesija, etički kodeks.

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MANAGERIAL ASPECTS OF PUBLIC SECTOR ORGANIZATION IN SERBIA

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Abstracts: Management in the public sector represents the basic function of positioning and directing the economic and financial activities of state collectivities, that is, the public sector towards the execution of the set goals and tasks for which they were formed. According to classical understandings, the state should intervene in the economy only when the market mechanism does not contribute to optimally efficient solutions, and limit its interference in the economy to the following areas: preventing monopolistic behavior, neutralizing negative external effects and providing public goods. The functions of state bodies and organizations have a fiscal character. The fiscal character observed in this way primarily refers to the general state sector, and only in part of its competences and through agencies and commercial parts, so that these activities are marked as quasi-fiscal in order to emphasize that the primary activity of these agencies does not have fiscal features.

Keywords: organization, management, public sector

1. Introduction

The public sector represents a part of the economic system owned by the state, which consists of state bodies and public enterprises. The public sector consists of: the state (central state, regional and local levels of government, public enterprises and public financial institutions, such as Central Banks). The public sector means various forms of organization of economic entities through which the state, that is, its organs, ensure the realization of certain interests. The main feature of the public sector activity is that the market laws are limited in the public sector. As a rule, it is an unprofitable business, although there are great exceptions. Also, there is no competition in the business of the public sector. Most of them are large ensembles financed through the state budget (Đukić, Kojić, 2023). The basic goals of the public sector are planned and tied to a certain time and must always bring about positive changes. These goals have a developmental function and are not free, but limited by the public interest. There are different opinions about what the public sector economy should primarily deal with. Primarily, it must deal with public finances, where it will consider the issue between public revenues and public expenditures, it should be reduced to the state level in the economy and the specifics of the functioning of state enterprises, it should lead the economic policy of the country and ensure such a legal order in which the basic economic institutions will be protected and rules of conduct in a market economy. As an integral part of the public sector, we also include public services and public enterprises.

2. The concept of emergence and development of the public sector

The public sector means various forms of organization of economic entities through which the state, that is, its organs, ensure the realization of certain interests. In market economies, the term "Public sector" refers to the part of the national economy for which the state has some direct responsibility. The concept of the public sector first appeared at the end of the 19th century in France and was presented through two schools whose founders were Leon Dighi and Maurice Oriu. According to Digi's understanding, public service is "any activity whose performance must be ensured, regulated and controlled by those they rule. Leon Digi considered public services to be all activities whose fulfillment must be ensured, regulated and controlled by the state. The development of the public sector in our country is characterized by two phases. The first phase began with the adoption of the Law on Joint Work, according to which all econo-mic entities have the status of joint work organizations with increased influence of the state. Those business entities perform activities that are an irreplaceable condition for the life and work of citizens, that is, of the socio-political community. By adopting the Law on Enterprises, the principle of market economy was adopted. The main characteristic of this phase is that public companies began to be established that operated with socially owned funds and were organized in the then only form of "association of work and funds." The second phase represents the status organization of public companies that begins with the adoption of the Law on Companies. For the first time, a legal basis was created in our country for distinguishing the ownership function from the public/legal function. In 1990, the Law on Public Enterprises was passed, which precisely defined entities that perform activities of public interest. The public sector is a common name for the sector of the general government and public enterprises and agencies owned by it. The public sector includes institutions that are owned by the state and that produce public goods and services. The public sector includes the state at all levels of government, the central bank, various state funds and agencies, and state-owned enterprises. The basic task of the public sector is to ensure the satisfaction of a number of needs and interests of citizens. In the public sector, there are a number of activities that the state defines by laws, which elaborate the constitutional freedoms and rights of citizens and their interests. The area in which public sector activities occur are social, infrastructural and communal activities and special administrative bodies (Dašić, 2021). The public sector is characterized by fo-ur levels of value:

a) Democratic - political: implies legitimacy, political responsibility towards the public, the public itself, accessibility, transparency and openness.
b) legal: includes legality, protection of human rights, various types of responsibility, legal certainty, equality and impartiality.
c) economic: considers economy, efficiency, reliability and competitiveness.

d) social: this includes social justice, care for vulnerable groups of citizens and solidarity.

States often do not raise enough funds through taxes, contributions, fees and similar types of revenue to meet all public needs. Then, if they don't want to sell their own property, they have no choice but to raise the shortfall by borrowing. In the public sector, there is a large number of workers who have various tasks with the administration in various circumstances and domains.

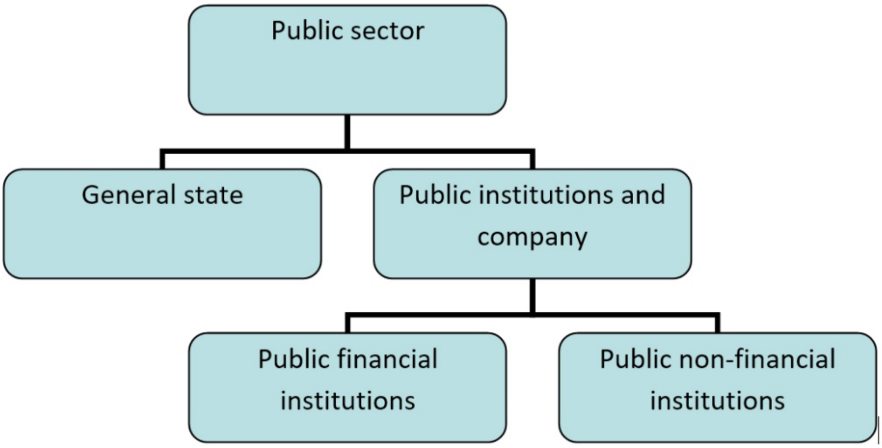
3. Public sector hallmark

The main feature of the public sector activity is that the market laws are limited in the public sector. As a rule, it is an unprofitable business, although there are great exceptions. Also, there is no competition in the business of the public sector. Most of them are large compositions financed through the state budget, so when we talk about the state budget, we mean a one-year document prepared by the Ministry of Finance in cooperation with other ministries and proposed by the Government. The budget is actually the state's financial plan for one year. It is binding on the expenditure side because the planned expenditures must not be exceeded without a rebalanced budget. Its content consists of a list of public revenues and expenditures, whereby public revenues include all state revenues prescribed by law (taxes, fees, fines, proceeds from the sale of state property, etc.) that have a public legal character and serve to cover public expenditures, i.e., finance public need. An important characteristic of public revenues is their obligation according to the law and their non-market characteristics (state funds for financing general needs). Public expenditures are used to finance public needs and their main feature is that they have the main goal of satisfying them. The issue of public finances is a key function of the role of the economy of the public sector, within which the issues between public revenues and public expenditures will be considered (Ristić, 2014).

4. Organization and management of the public sector

The basic goals of the public sector are planned and tied to a certain time and must always bring about positive changes. These goals have a developmental function and are not free, but limited by the public interest. The classification of public sector goals is based on certain criteria: according to the level of the organization, according to the possibilities of quantification, according to the hierarchical level, according to the planning horizon, according to the holders and according to the level of social responsibility. The management of the public sector is carried out through the New Public Management, which determines strategic planning and directs, coordinates, monitors and controls the activities of the state administration and the public sector. Managers in the public sector perform their work under specific conditions. They are accountable to both the legislature and the executive. The public sector of a country, as an integral part of the national economy, primarily includes 2 parts: the general level of the state (state entities at the local and regional level) and public institutions and companies, which are further divided into public financial institutions (monetary and non-monetary financial entities). and public non-financial institutions. A graphic representation of the mentioned organization is given in Figure 1.

Picture 1. Public sector organization



Source: Authors

The general government sector is composed of institutional units that play a role in the economic regulation of non-market services. The general government sector is composed of three entities: the central government, regional government and local government. The central government includes budgetary beneficiaries and extra-budgetary funds, i.e. Legal entities financed from earmarked contributions and other types of income. Budget funds primarily include ministries that are subordinated to the law on ministries, institutes, institutes and various state commissions. Therefore, the general government sector is an integral part of the public sector (Bratić, 2008).

In addition to public government, we also include local government, i.e. the government of local self-government, which primarily includes municipalities and cities (the City of Belgrade is also included in the RS). As a rule, municipalities are established for areas of several inhabited places that form a natural, private and social entity and are connected by common interests and viewpoints. The city is a populated place with over 10,000 inhabitants. They also include trading companies owned by them, which can be communal or non-communal. In the Republic of Serbia, the city of Belgrade has over 2,500,000 inhabitants. Given that the democratization of the state is directly conditioned by the need for greater participation of citizens in the affairs of the state, the concept of vertical division of power, i.e. division of power into central and local, i.e. central, federal (in complex states) and local, was also introduced. Insisting on such a division is a consequence of the historical maturation of the fact that there are certain tasks under the jurisdiction of the state that are best carried out in a narrower territory, without any or minimal participation of the central government, and for the realization of which the competent authorities would be the ones chosen by the citizens of that narrower territory. This is how we arrive at the notion of local self-government(Dašić, B., 2023)..

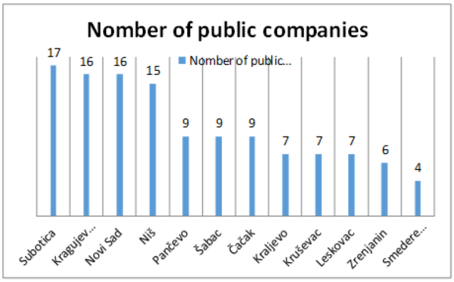
Public service is considered to be institutions, companies and other forms of organization established by law, which perform activities, i.e. jobs that ensure the realization of citizens' rights, i.e. satisfaction of the needs of citizens and organizations, as well as the realization of other law determined interests in certain areas (Law on Public Services).

A public enterprise is an enterprise that performs activities of general interest, and which is founded by the Republic of Serbia, an autonomous province or a local self-government unit. The government prescribed a list of public companies and capital companies that perform activities of general interest, to which it applies (Law on Public Companies):

JP „Elektroprivreda Srbije“
JP „Elektromreža Srbije“
JP „Srbijagas“
JP PEU „Resavica“
JVP „Srbijavode“
JP „Nuklearni objekti Srbije“
JP „Transnafta“
JP „Pošta Srbije“
JP „Srbijašume“
JP „Putevi Srbije“
JP „Službeni glasnik“

Regardless of the type of ownership or form of organization, the state participates in the management of public enterprises through its representatives. The goal of state participation is the protection of social interests. It can often happen that the interests of the company and society do not coincide. For example, it may be in the interest of the electricity industry to raise the prices of electricity, but at the same time this threatens the standard of the population. The task of the state representative in that case would be to assess the justification of the request and protect the population from unrealistic prices (Radaković, et al., 2023). In addition to concern about prices, there is also concern about the quality and volume of products and services provided to the population, which are in the domain of public companies. As public companies perform activities of special social interest, the state also prescribes the conditions that must be met by companies in order to engage in these activities.

Picture 2. Number of public companies in Serbian cities



Source: Authors

5. Economic system

According to the general theory, each system consists of: parts that form a functional whole, the way individual parts are connected and the rules based on which those parts are connected into one whole. On the other hand, the economic system is an integral part of the social system, which includes legal, political and other subsystems on which it is dominant. The key characteristic of economic systems is its multidimensionality, which means that it cannot be defined by means of a single determinant, but through multiple understandings. Based on that, we can define an economic system as a set of institutions and mechanisms for making decisions regarding production, distribution, exchange and consumption in a country during a certain period of time, acting as one permanent socio-economic entity in which all these issues are regulated. The economic system regulates who and in what way has the right to conduct economic activity in the country. Economic systems are operationalized using four components:

1) Decision-making system: it implies that decision-making authority is distributed to the decision-makers themselves, and within it we distinguish four components of centralization or decentralization, namely complete centralization (in practice it does not exist because it implies that only one person makes decisions), administrative decentralization (the central authority makes basic decisions and transfers less important decisions to lower decision-making levels), manipulative decentralization (the central authority does not explicitly limit the decision-making freedom of lower levels) and complete decentralization (decision-making power is divided into a number of independent units).

2) Motivational system: its essence concerns how an economic participant can motivate another to behave in accordance with his wishes.

3) Information system: provides decision makers with all the necessary information about the environment and actions of other participants.

4) Coordination system: it serves to coordinate the decisions made by the decision-makers according to the plan, tradition or the market.

Economic systems can be divided according to different criteria. According to the nature of the ownership of the means of production, we distinguish between private, state and social property, on the basis of which economic systems can be divided into capitalist (private ownership of the factors of production), socialist central-planning (based on state ownership) and scoialist self-governing economic systems (social ownership of with the means of production. According to the decision-making system, we distinguish between predominantly centralized economic systems in which the rights of lower levels can be taken away and predominantly decentralized ones in which lower levels have greater decision-making power. The division according to the motivational system is conditioned by a series of economic, political and social According to the method of allocation to production resources, we can see the market as the basic mechanism of connecting economic participants or that economic activity is connected and coordinated directly through the market itself (Bajec, 1997).

6. Economic policy

Economic policy can be defined as the activity of the state to influence the change in the behavior of economic participants in accordance with the set goals and direct them in a direction chosen by it. All economic policies are divided into systemic and ongoing. Systemic economic policies contain rules of conduct in the form of binding legal norms that must be adhered to by all economic participants and holders of economic policy. The current economic policy implies the direct influence of the state, which, by means of measurable quantities, affects the change in the behavior of economic participants and directs them in a direction chosen by it. Systemic economic policy is operationalized with the help of qualitative instruments as legal and institutional frameworks that more deeply change the functioning of the economic system, while current economic policy is operationalized with the help of quantitative instruments in the form of a variable whose change the state affects the achievement of short-term goals of full employment. When choosing the basic concept of economic policy, each country tends to harmonize its political offer with political demand, so a difference can be made between the economic policy of market systems where the holders are under constant pressure to adapt and, if necessary, change their political offer, and parliamentary democracies where the state harmonizes supply with demand through the demands of voters, interest groups, political parties and the like. We can make a difference between the economic policy of one-party systems and that of command economies, but there is no real control of economic policy because it is implemented by directives and procedures with the argumentation of selected goals. Every country strives to achieve both long-term (increasing the efficiency of production processes, allocation of resources...) and short-term (full employment, price stability...) goals of economic policy (Dašić, 2022).

7. Economy of the public sector

The term "public sector" or "public sector economy" has the function of simultaneously explaining the economic and financial activity of state collectivities, that is, the public sector. In terms of content, this term is very close to "public economy", i.e. the concept of the economy of public financing. All modern market economies are "mixed" economies, which means that economic activity in those countries is directed by various coordination and allocative mechanisms. In addition to the market, which, through competition and freely formed prices of goods and factors of production, regulates economic activity and relationships between students' economic factors, there is another mechanism at work. It is a state that performs its allocative, distributive, stabilization and development functions using non-market rules and principles. According to classical understandings, the state should intervene in the economy only when the market mechanism does not contribute to optimally efficient solutions, and limit its interference in the economy to the following areas: preventing monopolistic behavior, neutralizing negative external effects and providing public goods. There are different opinions about what the public sector economy should primarily deal with. Primarily, it must deal with public finances, where it will consider the issue between public revenues and public expenditures, it should be reduced to the state level in the economy and the specifics of the functioning of state enterprises, it should lead the economic policy of the country and ensure such a legal order in which the basic economic institutions will be protected and rules of conduct in a market economy. The public sector economy achieves all this in a different way than individual participants who make decisions about what to produce, buy, consume, sell, etc. based on their own and private choice, while the public sector economy makes such decisions through majority decision-making and public choice. In parliamentary democracies, the persons responsible for such affairs are elected by the citizens or voters, so they bear responsibility towards their electorate, while individual participants themselves bear responsibility for their decisions. Also, the state, unlike individual participants, has the right to forcibly implement its decisions.

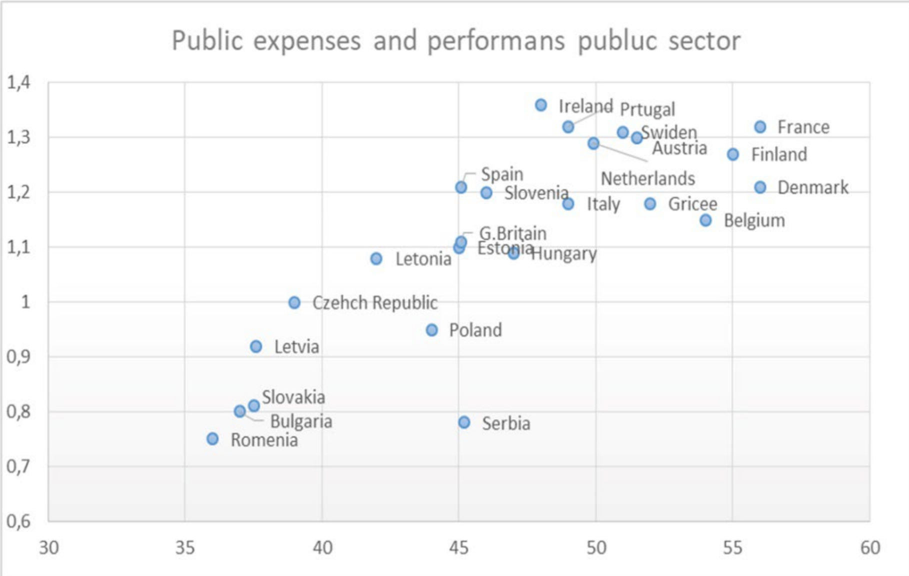
The state must anticipate the consequences and effects of its activities as best as possible, because if the public sector economy incorrectly anticipates the effects, the negative consequences will be felt by all economic participants, unlike individual participants who bear responsibility and negative consequences for their decisions. By evaluating the state's alternative activities in the economy, it is necessary to determine which social and economic goals the state has established (Vuković, et al., 2023). Based on this, a difference can be made between positive analysis, which deals with looking at the existing situation and the ways that led to certain state activities, and normative analysis, which deals with evaluating how well the state carries out its economic functions (Vukićević Petković, 2022).

8. Analysis of the efficiency of the public sector of the Republic of Serbia, in comparison with the countries of the European Union

Accession to the European Union is the ultimate goal of the integration processes of Serbia, which signed the SAA in 2007 and submitted a can-didacy for EU membership in 2009 in order to become a full member in one of the next waves of admission to the EU. The strategic commitment of the Republic of Serbia is membership in the European Union, within which the fundamental reform of the public sector is needed to achieve greater efficiency. By analyzing the performance of the public sectors of different European Union countries, we can conclude that countries with a larger public sector achieve better public sector performance. The old industrialized members of the European Union have the best performances, but some new members have come close (Poland, Slovenia, Hungary, Croatia). The public consumption of the Republic of Serbia is at the level of the countries of the European Union. If we compare the size of the public sector, we can conclude that the newly admitted members generally have a smaller public sector than the countries of the European Union (with the exception of Hungary, Croatia and Slovenia), which indicates the thriftiness of these countries (Kolarić, 2022).

Indicators in which Serbia achieved average results are education and healthcare (Velojić, 2016; Dašić, B. et al., 2021). Since the public spending of the Republic of Serbia is high, we can conclude that the quality of public services is low, and that it is possible to increase the quality of public services with the given amount of public spending.

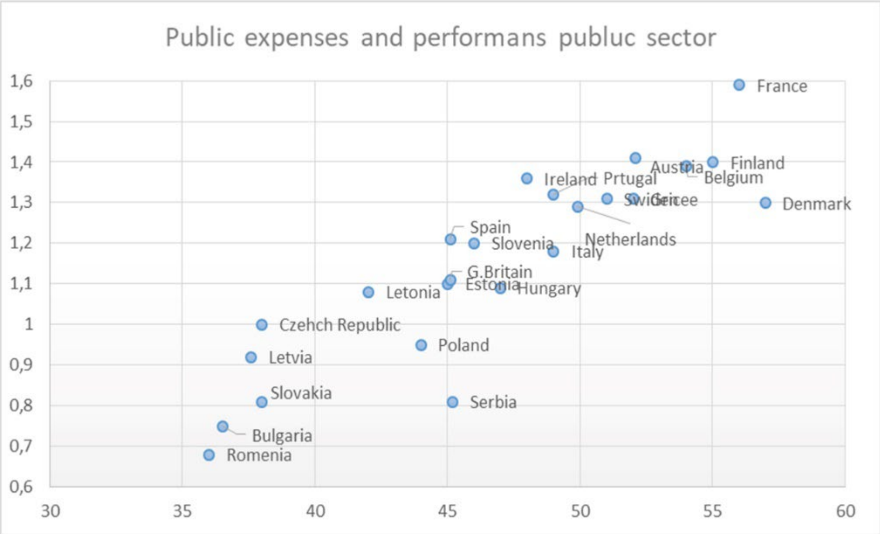
Picture 3. Overall performance and size of the public sector of EU member states and Serbia



Source: Authors

It is evident that the Republic of Serbia and the new members of the European Union can significantly improve the performance of the public sector and limit the use of public expenditures if we compare them with the achieved performance in the countries of the European Union. By analyzing the size of the public sector of the European Union countries, we can conclude that they have a larger public sector compared to the new members. Large public sectors of European Union countries have also achieved greater efficiency in comparison with countries that have a small public sector (Grbić, 2005). The Scandinavian countries and France have the largest public sector, which traditionally has a large public sector and achieved the highest overall efficiency of the public sector. The member states of the European Union achieved double the efficiency of the public sector compared to the newly admitted states.

Picture 4. Efficiency and size of the public sector of EU member states and the Republic of Serbia



Source: Authors

ABy analyzing efficiency, we can conclude that the Republic of Serbia has an inefficient public sector and that savings are possible. In other indicators, the Republic of Serbia is twice as ineffective as the countries of the European Union. The Republic of Serbia achieved the worst results in the indicators of public investments, which speaks of low investments and the neglect of the infrastructure of the Republic of Serbia, the indicator of distribution, which indicates a bad and indiscriminate social policy, and the indicator of stability as a consequence of high inflation rates and instability of GDP growth in the observed period. (Lovre, 2017).

9. Conclusion

The public sector includes various forms of organization of economic entities through which the state, that is, its organs, ensure the realization of certain interests. Public sector outputs do not necessarily overlap with public sector output. Outcomes in education and health services are the level of students' knowledge (usually measured by their performance on standardized international tests), the number of patients cured, while the output is the number of students enrolled in school, the number of operations performed or the number of patients cared for. The results of the public sector are of qualitative expression, while the product of the public sector is of quantitative expression. The basic goals of the public sector are planned and tied to a certain time and must always bring about positive changes. These goals have a developmental function and are not free, but limited by the public interest. The public sector of a country, as an integral part of the national economy, primarily includes two parts: the general level of the state (state entities at the local and regional level) and public institutions and enterprises, which are further divided into public financial institutions (monetary and non-monetary financial entities). and public non-financial institutions.

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MENADŽERSKI ASPEKTI ORGANIZACIJE JAVNOG SEKTORA U SRBIJI

Sažetak: Menadžment u javnom sektoru predstavlja osnovnu funkciju pozicioniranja i usmeravanja ekonomske i finansijske delatnosti državnih kolektiviteta, odnosno javnog sektora ka izvršavanju postavljenih ciljeva i zadataka radi kojih su i formirani. Prema klasičnim shvatanjima država treba da interveniše u privredi samo kada tržišni mehanizam ne doprinosi optimalno efikasnim rešinjima, s tim da svoje uplitanje u privredi ograniči na sleće oblasti: sprečavanje monopolskih ponašanja, neutralisanje negativnih eksternih efekata i obezbeđivanje javnih dobara.

Funkcije državnih organa i organizacija imaju fiskalni karakter. Ovako posmatran fiskalni karakter se prvenstveno odnosi na opšte državni sektor, a samo u delu svojih nadležnosti i kroz agencije i komercijalne delove tako da se te aktivnosti označavaju kao kvazifiskalne kako bi se naglasilo da primarna aktivnost tih agencija nema fiskalna obeležja.

Ključne reči: organizacija, menadžmet, javni sektor

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MARKETING POTENTIAL OF THE E-SPORTS MARKET IN SERBIA

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Review Article

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Abstract: The fast-growing e-sports market opens up numerous marketing opportunities that are primarily reflected in its promotional capacities. The main prerequisite for appropriate positioning through promotion is knowing the characteristics of the target groups of the e-sports market. Easily measurable results of investment in the e-sports market, the possibility of precise targeting, as well as an ever-expanding choice of age structures, make this market attractive for investors, sponsors and advertisers. Promotional potentials are present in the form of the effect of spreading the perception of the brand that sponsors or advertises, then the effect of partnership with influencers coming from this market to the traditional environment, but also the effect of promoting brands that are used in the realization of e-sports itself.

Apart from the review of previous publications on the basic aspects of the esports market, for this paper we have used information about the "'Gaming Village" project in the Republic of Serbia. The aim of the paper is to point out the importance of the marketing and promotional potential of the e-sports market. The basic research question is what are the marketing and promotional effects of the e-sports market.

Keywords: Esport, marketing, promotion, sponsorship, Serbia

1. Introduction

Current global market is experiencing significant changes that are changing faster than ever before. (Ratković, 2012) These changes mostly relate to the information and communication sector supported by the achievements of modern technologies, and innovations from this area are the most present today. These innovations include the improvement of existing business processes, then completely new products intended for the market of individual consumers, but also the opening of completely new markets such as e-sports. It is precisely e-sports as a field of gaming that represents the most promising and fastest growing market in the modern global environment. (Lehnert et al, 2022). The growth is particularly evident in the last ten years. (Cranmer et al, 2021) The rapid expansion of e-sports requires flexibility in defining this area, and as Formosa et al. emphasize, there are as many as nine of them. (Formosa et al, 2022) However, one of the more comprehensive definitions is that e-Sports commonly refer to competitive (pro and amateur) video gaming that is often coordinated by different leagues, ladders and tournaments, and where players customarily belong to teams or other "sporting" organizations which are sponsored by various business organizations. (Hamari & Sjöblom, 2017). Or, „e-sports, a catchall term for games that resemble conventional sports insofar as they have superstars, playoffs, fans, uniforms, comebacks and upsets. But all the action in e-sports occurs online, and the contestants hardly move". (McCutcheon et al, 2018). Another more complete definition is the following: „Electronic sport, or e-Sport, organized video game competitions, is also known as cybersport, virtual sport, and competitive gaming " (Jenny et al, 2017).

It is considered that e-sports appeared with video games, and that the first tournament took place in the game "Spacewar", at Stanford University in 1972. Very soon after this event, arcade games such as "Pac-man" or "Donkey Kong" appeared, as well as "Street Fighter II" and "Quake", with which more serious large tournaments began in the early nineties. The most famous tournament of the nineties is the "Red Annihilation Quake Tournament" and it was recorded as the first significant event in the e-sports market. Later, the same popularity was experienced by "Counter Strike

1.0", which continues to attract players even today.

The marketing and promotional potential of e-sports is gaining importance with the emergence of social networks and streaming platforms such as 'Twitch'. This platform allows continuous monitoring of e-sports, but also it enables access to archives from tournaments that have already ended. Social networks allow players to make a brand out of their name, as well as to work on attracting sponsors. It is believed that after 2010, the development of professionalism in e-sports began, and that this industry progressed progressively in the following years, on the one hand through the development of technology and the environment in which e-sports is realized, and on the other hand, through external investments, i.e. investments, sponsors and advertisers. As a testament to its growth, e-sports is studied at over 170 universities worldwide (appily.com, 2024) and is expected to be included as a competitive sport in the Olympic Games, although there are debates as to whether it can be considered a sport (Cunningham et al, 2018; Funk et al, 2018). In addition to this debate, many authors also address video game addiction. (Kim et al., 2022; Liu et al., 2022; Spekman et al., 2013) Gaming is considered to be the largest industry in the world after the military industry. Investments in e-sports are significant (Widyaningsih et al., 2021), and the attractiveness of this market can also be seen through research that aims to determine whether investments in e-sports have exceeded income growth. (Newman et al., 2022)

Though appearing in limited sport management research, esports is a non-traditional sport form that generated just under $1.2 billion in revenue as an industry in 2019. (Gawrysiak et al, 2020) According to the Statista source, „in 2019, worldwide revenues generated in the eSports market amounted to 957.5 million U.S. dollars, a figure which is estimated to exceed 1.6 billion U.S. dollars by 2024“ (Gough, 2024). The same source states that most of these earnings come from betting, prize pools and tournaments, of which 641 million are sponsorships and advertisements. E-sports is expanding in the global market, both through the income it generates through investments, and through enabling the positioning of different brands. According to the Statista source, the Esports market can be divided into 6 different parts: Sponsorship & Advertising, Merchandise & Ticketing, Streaming, Media Rights, Publisher Fees and Esports Betting.

The company that produces an adequate environment for the realization of e-sports in Serbia is Relog Media. This company is privately owned and the only one engaged in business in the field of e-sports. The services it provides are complete in terms of the requirements for the realization of the end product of this market.

Relevant institutions for the development of esports in the Republic of Serbia[1] recognize the potential of this market. There have been announcements regarding the opening of the so-called villages for the development and practice of activities related to the creation of an adequate physical environment, as well as the specific production of software that supports the functioning of e-sports, but also the realization of the final service in the form of preparation and organization of various types of competitions. During 2020, the "Gaming Village" project was promoted at the Expo 2020 in Dubai, where Relog media premiered this project. We are still waiting for approvals from the competent institutions for the realization of this project.

The aim of this paper is to point out the importanc e of the marketing and promotional potential of the e-sports market. The basic research question is what are the marketing and promotional effects of the e-sports market. In accordance with that, this paper will present the key development potentials of the environment for practicing e-sports, and in connection with that, the target groups, as well as the marketing and promotional potentials of this market, will be described. The paper will also review the activities so far and announced plans regarding the opening of the gaming village.

Marketing and promotional potential of e-sports

The modern market is characterized by rapid changes. (Grubić, 2012; Ratković, 2018) These changes primarily come from changes in the requirements of end-users of value (Ratkovic et al., 2017; Ratković et al., 2014), but also from competition, which exerts an increasing influence (Garača, et al., 2013; Ratković, et al., 2011), as well as from the direction of technical and technological

[1] Insofar thereof, Serbia.

achievements (Bin Amin et al., 2024; Sutrisno et al., 2023). In addition to the above, there is a whole set of other factors that inter-relate and influence each other, creating some new changes that can hardly be predicted. (Ratković et al., 2020). Nevertheless, despite the difficulties in predicting market trends and perspectives, research must be done continuously, especially in areas where technologies are developing. (Ratković et al., 2017) Namely, precisely because of the development and growth of new technologies, the greatest number of innovations are created, one of the key ones being the value created by -esports. (Hölzle et al., 2022; Martin-Niedecken & Schättin, 2020). Furthermore, e-sports itself is an innovation as a completely new type of market, and as such must be continuously monitored in all its aspects. (Bányai et al., 2019; Darwin et al., 2020; Funk et al., 2018; Reitman et al., 2020)

One of the basic analyzes that should be carried out through the process of continuous research into the development of e-sports is the analysis of target groups. (Abbasi et al., 2021; Gawrysiak et al., 2020; Hedlund, 2023). Perceived from the marketing and promotional perspective, e-sports is a completely new market where target groups are located in one place for longer periods of time, and in large enough numbers to justifiably invest efforts in identifying their characteristics. (Lehnert et al., 2022). Previous research shows that it is mostly about male players (Wack & Tantleff-Dunn, 2009), who are exposed to stress during the game (ValladÃo et al., 2020), although there are also female players, who enteed the topic of harassment in the e-sports environment as it became the focus of research (Darvin et al., 2020). According to the Statista source, the ratio of male to female audience is 61-39%. When it comes to only elite players, research shows that they are dedicated to physical activities in order to maintain general fitness. (DiFrancisco-Donoghue et al., 2019; Kari & Karhulahti, 2016) Professional players in this sport often come from traditional sports, which they abandoned due to injuries, looking for new challenges. Additionally, all participants are characterized by an interest in gaming innovations, a competitive spirit (Migliore, 2021; Weiss & Schiele, 2013), as well as socializing in a virtual environment (Akkaya et al., 2021), which results in individuality, but also team spirit at the same time as well as knowledge of specific skills associated with playing a specific game (Nagorsky &

Wiemeyer, 2020), etc. Practice shows that the average age of players is from 16 to 47 years. The age of players and the audience increases, which widens the potential target market. Apart from that, practice shows that it is a question of paying power and electronically literate individuals. Namely, in order to engage in e-sports, players use expensive computers - gaming consoles, and mostly use credit cards to pay for skins and other benefits they have within the e-sports system.

The benefits that players use are certain anti-cheat practice sites, which require considerable financial resources on a monthly basis.

Participants in the esports market are also those who bet on the outcomes of competitive activities, and accordingly, there are debates about whether this market stimulates betting to an extent that would cause addiction. (Macey & Hamari, 2019; Marchica et al., 2021) Research also indicates that "students with high academic achievement spend more time playing video games" (Adžić et al., 2021)

According to the Statista source, „in 2019, the number of eSports enthusiasts and occasional viewers totaled just under 400 million. At the current growth rate, by 2024, there are expected to be over 285 million frequent viewers of eSports worldwide, as well as some 291.6 million occasional viewers“ (Gough, 2024). Also, „by 2025, there are expected to be 640.8 million viewers of eSports worldwide, a large increase from the 435.7 million in 2020.“ (Gough, 2024a).

The influence of competition in the field of e-sports is also significant. (Weiss & Schiele, 2013). This competition is evident between technology producers and the general environment in which sports are implemented. However, as in the sports industry in the non-digital environment, there is more of a partnership culture present here. It is possible that this is due to the fact that it is a new field that is rapidly expanding, and consultants and partners are necessary, but it is also possible that it is due to the fact that it is about the value as an output of this market, which implies team spirit and cooperation. Certainly, it is about the entertainment industry and about sports, and the basic features of the produced value in such an environment can be transferred to those who create them, and in this way, competition can be turned into cooperation. Among other things, this is one of the specifics of the e-sports market. It is for sure that the esports market itself is characterized by competition, considering its basic characteristic, which is the competitive spirit. (Migliore, 2021; Smith et al., 2019) It is precisely from this characteristic that the fact that participants in this environment are exposed to stress arises.

The third key influence stems from the fact that the information technology industry is developing at a high speed, and that continuous monitoring of these changes is a necessary condition of any business in this industry. The rapidly growing gaming industry attracts millions of people around the world. E-sports is a necessity in a world that increasingly emphasizes the digital basis in everyday life. (Widyaningsih et al., 2021) E-sports has become much more than a hobby due to organized competitions on a global level, attracting professional players and a global audience. On the one hand, the rapid growth of new technologies, and on the other hand, the creative and proactive behavior of players in this market, imply continuity in the creation of new software solutions with more attractive content.

Marketing and promotional opportunities of this market are found in research, advertising and sponsorship potentials. (Jo & Lewis, 2024; Mancini et al., 2022; Ratković & Dašić, 2023; Reitman et al., 2020; Seo et al., 2018) Research agencies have a double benefit from the e-sports market. First of all, the gathering of a large number of individuals in one place, conditionally speaking, allows for a faster insight into the structure and characteristics of the segments, and the segmentation itself by age is simpler considering the type of game. For example, in the game League of Legends (LOL) there is a predominantly younger population, from 12 to 18 years old, and for brands that are interested in this segment, they will be the target market. Or, in the game Counter Strike2 (CS2) there are mainly players and audiences from 16 to 47 years old, and they will be the target segment for certain brands. The currently present companies engaged in research in this market are statista.com, newzoo.com and eschart.com. Research agencies can offer a wide range of different data that are necessary for future investors, sponsors and advertisers.

The second benefit that researchers have lies in the simplicity of analyzing and monitoring the effects of all activities implemented in this market, especially advertising (Seo et al., 2018) and sponsoring (Jo & Lewis, 2024).

The advertising potential of the e-sports market is significant, both for brands that are directly related to the functioning of this market, and for all others whose target group is its participants. (Gawrysiak et al., 2020) Advertisers can choose different performance strategies, such as, for example, the strategy of the Red Bull brand, which is recognized as aggressive marketing, that is, a push strategy, or the strategy of the Monster brand, which is recognized as a pull strategy. The same goes for sponsorship. Advertising and sponsorship potential is found in the possibilities of exposure of the brand to the audience in the e-sports environment. The goals of sponsoring these events are to generate exposure and to transfer brand equity. (Jo & Lewis, 2024). While on the one hand there are corporate sponsoring goals that are correlated with the overall promotional strategy and indirectly aim at increasing profits, (Ratković, 2023), on the other hand the goals of the sponsorship seller in the esports market are directly financial in nature. The only question is which target groups find themselves in the e-sports environment. It is precisely this question that research agencies, that is, relevant investors, advertisers and sponsors are interested in.

Therefore, in order to define the specific marketing and promotional potential of the e-sports market, it is necessary to identify the characteristics of the participants. Their relevant characteristics are considered in the domain of demographic, economic, sociological, psychological and other indicators of their personality and lifestyle, which are directly related to their activities on the e-sports market. (Bányai et al., 2019; Goulart et al., 2023; Mao, 2021; Raletic-Jotanovic et al., 2015; Rudolf et al., 2020; Wood & Williams, 2011) Nevertheless, the most important indicator for the interest of investors, as well as potential sponsors and of advertisers, as in other markets, is the number of participants in this market.

Practice shows that the most frequent sponsors of this market are manufacturers of hardware and software, gaming peripherals, as well as betting companies, manufacturers of confectionery products, then manufacturers of energy drinks, sports brands, but the automotive industry is also increasingly present. Well-known brands of sponsors and advertisers on the e-sports market are Intel, Zowi, Logitec, then Monster, Red Bull, Wolt, Coca Cola, and others.

Just like in other parts of the sports market, popular and globally recognizable athletes have been created here. (Baltezarević et al., 2022; Ward & Harmon, 2019) They are also potential promoters of both e-sports itself and brands from the so-called traditional environment. (Dašić et al., 2021) Cooperation with them in the form of partnership has been present for a long time. A partnership also exists between an e-sports team and a specific brand, for the purpose of brand promotion. For example, the fashion brand Polo has partnered with the G2 e-sports team, and one of the most knowledgeable e-sports analysts, Mathieu Quiquerez, is the brand ambassador for the betting company 1xbet. Furthermore, perceived from the point of view of marketing interests, e-sports players represent a product that has a promotional capacity. (Ratković et al., 2023) These are brands that require constant maintenance of a good image, and to that end they also require the support of various communication channels, such as social networks or specialized TV channels.

In addition to the above, the cooperation of the gaming industry is also present with specialized media, which broadcast exclusively e-sports. The benefits of this cooperation are in the media representation and expansion of the e-sports market, the popularization of e-sports personalities, as well as the promotion of games.

Causes and consequences of Planned Communist Management

Until only few years ago, the gaming industry was no more than an abstract idea in the Serbian market, and today our country is a country where many professionals are preparing to participate in various competitions. Since 2013, with the Festival of Education and Sports (FOS) organized by a group of enthusiasts who called themselves Gaming.rs, and later became the founders of the Relog media company, Serbia has become a recognizable destination for players and teams in the gaming industry. The company Relog media started its work in 2019 with the opening of the television channel TV Arena e-sports, while at the same time it also began e-sports production of major events. Also, this company today organizes tournaments at the local and global level, as well as preparation of competitors in the so-called bootcamps.

The growth of the gaming industry also implies the establishment of a partnership, and this company has established cooperation with the Arena chanell group television, which created specialized channels in Serbia and Slovenia, called Arena E-sports and Arena E-sports Slovenia. Relog media is becoming a leader in e-sports in the region and in the world, focusing, in addition to bootcamps and television, on the production and organization of regional and world tournaments. These tournaments are very important in the world of esports, given that they are at a high level, which compared to, for example, tennis, is the equivalent of the ATP Masters and qualifying for the Grand Slams, and with football, the equivalent would be the Europa League and qualifying for the Champions League. By organizing live tournaments, players and audiences experience more satisfaction, but tournaments are mostly organized online throughout the year.

The content broadcast by TV Arena e-sports is prepared by the Relog media team. Television content includes streaming, which is most prevalent in the segment of live gaming, but it also features shows in which well-known influencers from this market are guests, who in this way promote e-sports, but also build a brand of their name. TV Arena e-sports and social networks such as "Instagram", "Twitter", "Twitch", and "Youtube" are compatible and partner-oriented in the direction of content exchange.

Apart from television, Relog media has a "bootcamp", in other words they are engaged in preparation of players for all kinds of tournaments. Since the establishment of the company, of the top 50 teams in the world, 48 have used their services. The remaining two have not because they have their own bootcamps. Over 200 of the world's best teams have played Relog media tournaments, or used bootcaps services.

In a relatively short time, the company Relog Media has created the appropriate infrastructure in Serbia for the realization of e-sports. At the same time, this company promoted Serbia in the best possible way on the gaming market, and is now recognized as one of the main destinations for e-sports. This was helped by the fact that all Ukrainian and Russian e-sports and betting companies transferred their operations to the territory of Serbia, i.e. to Belgrade. In addition to those companies, Serbia also hosted companies from other continents that saw this destination as desirable because of the visa-free regime and excellent connections in air traffic.

Relevant institutions recognized e-sports as Serbia's development potential, and proposed the "Gaming Village" project, which was presented at Dubai Expo 2020. In addition to business space, the project includes a gaming arena, the Faculty of E-sports and Gaming, a high-class hotel, bungalows with their own swimming pools, as well as and accompanying facilities such as halls for practicing various sports, tennis and padel courts, trim tracks, water sports, an Olympic swimming pool and catering facilities.

The infrastructure of the "Gaming Village" is planned to occupy 11 hectares, with good connections between the airport, highway and bus stations. For the continuous functioning of such a place, it is necessary to provide access roads, electricity, internet, and other conditions.

The hotel that is planned in this environment is intended for users of bootcamps services, and it must be of a high category, because the teams that use these services require a high level of service. The initial plan determined that the hotel should contain 18 bootcamps rooms, which will contain the most modern gaming computers with adequate protection and internet connection.

The e-sports arena should have 10,000 seats, adapted for e-sports and concert events. This means that in certain situations the arena would also be used for a wider population that does not belong to the population that practices e-sports. The arena project is certainly intended for the specifics that accompany the organization and realization of e-sports events.

The sports facilities within the Gaming Village are intended for relaxation, as well as strengthening the physical and mental health of the teams that come to bootcamps and competitions. In the meantime, the sports content is intended for the preparation of other sports clubs such as volleyball, water polo, martial arts, etc.

Such an e-sports complex cannot be successfully realized without the support of an experienced partner, which in this case is the Relog media company. Namely, this company has expertise and knowledge, which it has acquired through many years of experience, working on a large number of projects related to e-sports. In addition, the management of this company implies leadership and managerial skills, which are very necessary for such a project, and it can be said that the Gaming Village project has excellent support in the Relog media company.

The above shows the seriousness in planning, as well as the necessity of close cooperation from the very beginning of the project with the company Relog media. However, whether this idea will finally come to fruition does not depend on the partners, but on the readiness of the relevant institutions in Serbia.

Conclusion

Based on all of the above, it is not disputed whether the marketing and promotional potentials of the e-sports market exist, because they exist if there is a sufficient number of participants who make up the target groups on it. Namely, this market already has a large number of participants, and what is even more significant, that number is progressively growing, and the age range is expanding. Currently, as interested external participants, the market is interested in manufacturers of gaming equipment and software, then betting houses, manufacturers of confectionery products, manufacturers of energy drinks, the automotive industry, etc. Investments in e-sports have currently outstreched the revenues it generates, and further growth is expected from both directions. Considering the growth of the e-sports market and the ability to measure the effects of investments, this market is very attractive for investors, sponsors and advertisers.

Segmentation in the e-sports environment is simpler than usual, given the knowledge of the characteristics of the mini-communities that make up one game. Research shows that players and the audience are in the age range from 16 to 47, predominantly male (61%-39%), more able to pay, exposed to stress, have a competitive spirit, and when it comes to professional players, they also engage in physical activities in order to maintain general fitness, and often come from traditional sports that they have abandoned due to injuries, looking for new competitive challenges. As such, this market allows easier positioning for sponsors and advertisers, while also attracting investors.

Perceived from the point of view of marketing and promotional interests, the e-sports market offers several potentials, the most transparent of which are those that come based on the positioning of sponsors and advertisers on it in order to attract the target groups it constitutes. As in the traditional environment, it is possible to use a push and pull positioning strategy in the e-sports market, with the aim of spreading brand awareness. All businesses that are compatible with the e-sports environment are welcome sponsors and advertisers.

The second significant marketing benefit is the possibility of establishing a partnership between well-known players and participants in the so-called the traditional market, and using the effects of that cooperation for promotional purposes of their own business and brand. Such partnerships are known in the sports industry, as well as the benefits they bring, which are related to the transfer of the player's image to the brand, as well as the creation of a synergistic effect. In order to create a brand from the name of an esports player, in addition to his skills that he shows in esports, the help of other communication channels, such as social networks, or specialized esports television, is necessary.

The development of e-sports represents an important potential for Serbia, considering that it generates income from two directions. The first is the one that comes from the industry itself, that is, from the production and organization of tournaments, but also from the preparation of players and teams that would be organized through the "Gaming Village".

Another direction of income comes from the recognition of Serbia in the world as a destination for esports, but also indirectly through other characteristics. One of the better known examples of good esports branding is the city of Katowice in Poland. Appropriate branding of Serbia, while respecting the specifics, could attract a greater number of tourist visits, not only during the organization of the tournament, but also outside of that time. Certainly, the recognition of Serbia as a suitable destination for esports creates the potential of branding on this topic, but also opens up the visibility of numerous complementary tourist potentials.

The Relog media company is a pioneer and certainly an excellent base for the healthy development of e-sports in Serbia on various grounds. Whether the experience of the managers of this company will be transferred to a higher level, which would include the implementation of the innovative project "Gaming Village", remains a question for the future. If the answer is positive, one of the next dilemmas is how to make a connection between the branding of Serbia as an e-sports destination and a destination that has a wide range of other tourist potentials.

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MARKETINŠKI POTENCIJAL TRŽIŠTA E-SPORTA U SRBIJI

Sažetak: Tržište e-sporta koje se brzo razvija otvara brojne marketinške mogućnosti koje se pre svega ogledaju u njegovim promotivnim kapacitetima. Osnovni preduslov za odgovarajuće pozicioniranje kroz promociju je poznavanje karakteristika ciljnih grupa tržišta e-sporta. Lako merljivi rezultati ulaganja u tržište e-sporta, mogućnost preciznog ciljanja, kao i sve veći izbor starosnih struktura, čine ovo tržište atraktivnim za investitore, sponzore i oglašivače. Promotivni potencijali su prisutni u vidu efekta širenja percepcije brenda koji sponzoriše ili reklamira, zatim efekta partnerstva sa influenserima koji dolaze sa ovog tržišta u tradicionalno okruženje, ali i efekta promocije brendova koji se koriste u realizaciji samog e-sporta.

Osim pregleda prethodnih publikacija o osnovnim aspektima e-sport tržišta, za ovaj rad smo koristili podatke o projektu „Gaming Village“ u Republici Srbiji. Cilj rada je da ukaže na značaj marketinškog i promotivnog potencijala tržišta e-sporta. Osnovno istraživačko pitanje je koji su marketinški i promotivni efekti tržišta e-sporta.

Ključne reči: Esport, marketing, promocija, sponzorstvo, Srbija

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UPUTSTVO AUTORIMA ZA PRIPREMU RADOVA

Redakcija časopisa "Ekonomski signali" [1]

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Rezime. Rezime treba da obuhvati sadržaj rada i da sadrži najmanje 70 i najviše 150 reči. Veličina fonta za rezime treba biti 10, ceo rezime treba biti uvučen 1 cm sa leve i desne strane margine. Takođe, potrebno je razdvojiti rezime sa 2 prazna reda (veličina 10) sa gornje i donje strane. Potrebno je, takođe, naslov, rezime i ključne reči prevesti na engleski jezik i poslati ga na kraju rada...

1. Uvod

Instrukcije i odgovarajući šablon MS Word dokumenta dati u ovom radu predstavljaju formu koju autori moraju poštovati prilikom pisanja radova za časopis Ekonomski signali. Radovi predati u tehnički neodgovarajućoj formi biće vraćeni na ispravku, ili odbijeni ukoliko izmene ne budu završene na vreme.

2. Priprema rada

Redakcija časopisa "Ekonomski signali" preporučuje da se koristi MS Word za pripremu radova, a zatim da se pošalje rezultujuća MS Word datoteka (file). Moguće je pisati rad i u LaTeX-u, pri čemu je, pored obaveznih LaTeX datoteka, neophodno poslati i PDF datoteku poslednje (odobrene) verzije rada. Mole se autori da se pridržavaju instrukcija i u ostalim stavkama, kako bi bilo moguće napraviti jedinstvenu formu za sve radove jednog broja.

Napomenimo da klasa/stil datoteka i šablon rada ne može biti promenjen. Zato je potrebno pridržavati se uputstva vezanog za format i veličinu fonta, sve u cilju da krajnji proizvod bude što je moguće više homogen.

2.1. Region za štampanje

Region za štampanje je 122 mm x 193 mm. Tekst treba biti poravnat sa obe strane kako bi se obezbedilo zauzimanje cele širine linije. Treba obezbediti da desna margina ne bude neravna, sa rečima koje su spojene crticom, kao što je uobičajeno.

2.2. Izgled, vrsta slova, veličina fonta i numerisanje

Koristiti font Century za sva formatiranja teksta. Koristiti veličinu 10 za ime (imena) autora i veličinu 9 za adresu (adrese) i rezime. Za glavni tekst koristiti veličinu fonta 10 i prored 1. Za naslove najvišeg nivoa (1., 2. itd.) koristiti veličinu 12, a za ostale nivoe koristiti veličinu 10. Italic stil može biti korišćen radi naglašavanja reči u tekstu. Podebljane i podvučene reči treba izbegavati. Sa ovim veličinama, prostor između linija trebao bi biti tako postavljen da na jednoj strani ima oko 45 linija punog teksta.

Naslovi. Naslovi treba da počinju velikim slovom i, sa izuzetkom naslova rada, trebaju biti poravnati sa leve strane. Veličine fonta date su u tabeli 1.

Leme, pretpostavke i teoreme. Brojevi koji se odnose na leme, pretpostavke, teoreme itd. treba da se pojavljuju u uzastopnom nizu, počev od broja 1, a ne, na primer, od broja 11.

Tabela 1. Veličine fonta za naslove. Naslovi tabela trebaju uvek biti pozicionirani iznad tabele. Poslednja rečenica naslova tabele treba biti završena bez tačke

Nivo naslova	Primer	Veličina fonta i stil
Naslov rada (centriran)	Predavanje o …	16, podebljan
Naslov prvog nivoa	**1 Uvod**	12, podebljan
Naslov drugog nivoa	**2.1 Region za štampan'e**	10, podebljan
Naslov trećeg nivoa	**Naslovi.** Tekst koji sledi …	10, podebljan
Naslov četvrtog nivoa	*Napomena.* Text koji sledi…	10, italic

2.3. Slike i fotografije

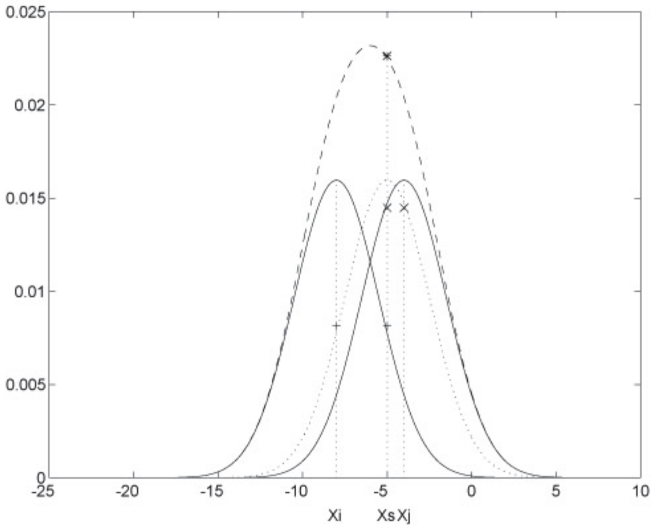
Autori se mole da svoje slike prave u elektronskom obliku, ukoliko je moguće, i integrišu ih u svoju tekstualnu datoteku. Ukoliko se koristi MS Word, potrebno je koristiti "In Line with Text" opciju za integrisanje slike sa tekstom.

Treba proveriti da li su linije crteža prekinute, ili cele i da li imaju konstantnu širinu. Mreža i detalji unutar slike moraju biti jasno čitljivi. Linije crteža moraju imati rezoluciju najmanje 800 dpi (poželjno je 1200 dpi). Za digitalne crno-bele ilustracije (polutonove) 300 dpi je obično dovoljno. Natpis na slikama treba da ima širinu od 2 mm (veličina 10).

Slike treba da budu numerisane i da imaju naslov koji bi uvek trebao biti pozicioniran ispod slike, za razliku od naslova tabele, koji uvek treba da bude iznad tabele. Poslednja rečenica naslova, bilo da se radi o slici, ili o tabeli ne treba da se završava tačkom. Potrebno je centrirati naslov slike između margina i koristiti veličinu fonta 9 (Slika 1. na primer). Prostor između teksta i slike treba biti oko 8 mm, a prostor između slike i naslova oko 5 mm.

Napomena 1. U štampanim brojevima, ilustracije su generalno crno-bele (polutonovi) i samo u izuzetnim slučajevima, ukoliko je autor spreman da pokrije dodatne troškove za reprodukciju slika u boji, mogu se prihvatiti slike u boji. Ukoliko su slike u boji neophodne, molimo vas da nam pošaljete odvojene datoteke u boji.

Napomena 2. Da biste obezbedili da reprodukcija vaših ilustracija bude prihvatljvog kvaliteta, savetujemo da izbegnete korišćenje senke. Kontrast treba biti što je moguće veći. Ovo se posebno odnosi na ekranske forme.



Slika 1. Ovo je prikaz slike koja se sastoji od različitih tipova linija. Elementi slike opisani u naslovu trebali bi biti napisani u *italic* stilu. Poslednja rečenica u naslovu slike treba, generalno, da se završava bez tačke

2.4. Formule

Prikazane jednačine ili formule su centrirane i stavljene u posebnu liniju (sa dodatnom linijom prostora iznad i ispod). Prikazani izrazi trebaju biti numerisani. Bro'evi trebaju biti uzastopni unutar svake sekcije, ili unutar priloga, sa bro'evima koji su zatvoreni zagradama i koji se nalaze na desnoj margini. Na primer:

$$x + y = z \; . \tag{1}$$

Molimo vas da punktirate prikazane jednačine kao i originalan tekst, ali sa malim razmakom pre interpunkcijskog znaka.

2.5. Programski kod

Programski listinzi, ili programske komande u tekstu se postavljaju u tekstu u fontovima Courier, ili Courier New.

Primer kompjuterskog programa Jensen K., Wirth N. (1991) Pascal user manual and report. Springer, New Mork

```
program Inflation (Output)
   {Assuming annual inflation rates of 7%, 8%, and
   10%,... years};
   const MaxYears = 10;
   var  Year: 0..MaxYears;
        Factor1, Factor2, Factor3: Real;
   begin
      Year := 0;
      Factor1 := 1.0; Factor2 := 1.0; Factor3 := 1.0;
      WriteLn('Year 7% 8% 10%'); WriteLn;
      repeat
          Year := Year + 1;
          Factor1 := Factor1 * 1.07;
          Factor2 := Factor2 * 1.08;
          Factor3 := Factor3 *1.10;
          WriteLn(Year:5,Factor1:7:3,Factor2:7:3,
              Factor3:7:3)
      until Year = MaxYears
end.
```

2.6. Endnote

Endnote treba smestiti na kraju rukopisa, ispred Referenaca.

Fusnote se ne prihvataju.

2.7. Citati

Prezime autora, godina publikovanja i strana izvora: na primer: (Wang, 1997, 144);

Direktno navođenje u tekstu, na primer: "Ako su ljudi zauzeti ceo dan ..." (Heleta, 2008, 110). Ili, na primer: Heleta (2008, 112) navodi "... kreativnost predstavlja pobedu navika sa originalnošću".

2.8. Numerisanje strana i zaglavlja

Rad ne treba da sadrži numerisane strane: njih će postaviti izdavač. Nije potrebno stavljati ni zaglavlja (Header and Footer).

2.9. Kvalitet štampe

Očekuje se da, pored elektronske verzije u MS Word, i PDF formatu, treba priložiti i štampanu verziju (jednostrano štampanu). Molimo vas da koristite štampače visoke rezolucije, preporučljivo je laserske štampače sa najmanje 300 dpi. Tekst treba biti poravnat sa obe strane. Format papira (A4, Letter) je irelevantan.

3. Lista za proveru

Prilikom slanja radova u redakciju, potrebno je proveriti da li sadrži sledeće:

- izvornu datoteku, npr. MS Word datoteku koje integriše tekst i slike;
- datoteku u PDF formatu;
- jednostranu štampanu verziju (ne fotokopiju) finalne verzije rada;
- datoteke sa stilovima, šablonima i specijalnim fontovima koji su, možda korišćeni;

Ukoliko postoji dodatni materijal, potrebno je poslati:

- kratak opis dodatnog materijala;
- datoteke sa slikama u boji u elektronskoj verziji

4. Reference

U tekstu:

- u slučaju jedne reference, izvor se navodi na sledeći način: (Keur, 2014, 423-425);
- u slučaju više referenaca, izvore treba poredati hronološki, na primer: (Heleta M,. 2008, 120-121; Frain, B. 2014, 166)
- ukoliko je referenca publikacija zvanične organizacije navodi se skraćenica naziv (RZS, 2010, 22)

Kod referenci sa jednim ili dva autora, navode se prezimena autora, godina izdanja, i strana. Primer dva autora: (Talbot & McLean, 2014, 115)

Kod referenci sa tri ili više autora, navodi se prvi autor i nastavak "i dr.," (autori na engleskom nastavak "et al.,". Primer: (Trklja i dr., 2015, 125), odnosno (Keur et al., 2014, 89).

U listi referenaca na kraju rukopisa:

- treba navesti samo one izvore na koje se autori neposredno pozivaju i na njih upućuju u svom rukopisu;
- radovi se navode bez numerisanja, prema prezimenima autora, u abecednom redosledu;

- ukoliko više od 'edne reference ima isto autorstvo i datum - da bi se obezbedilo razlikovan'e referenaca - koristi se: a, b,... nakon datuma, na primer: Jackson, M. C. (2006a);
- ukoliko neka referenca posedu'e DOI bro', treba ga navesti na kra'u reference.
- u referencu publikacije zvanične organizaci'e doda'e se skraćenice iza naziva.

4.1. Knjiga sa jednim autorom:

Frain, B. (2014). *HTML5 i CSS3, Prilagodljiv web dizajn*, Beograd, Kompjuter biblioteka

Heleta M. (2008). *Menadžment kvaliteta*, Beograd, Univerzitet Singidunum

4.2. Knjiga sa dva autora:

Talbot, J. & McLean, J. (2014). *Programiranje Android aplikacija*, Beograd, CET

4.3. Knjiga sa više od dva autora:

Keur, C., Hillegass, A. & Conway, J. (2014). *Pragramiranje aplikacija za IOS*, Beograd, Mikro knjiga

4.4. Članak u časopisu:

Trkl'a R., Dašić B. & Trklja M. (2015). Budžet Republike Srbije - pregled prihoda i rashoda. Leposavić, *Ekonomski signali*, 10(2), str. 44.

4.5. Web site:

Krstanoski, N. (2015). Trunk with branches public transport scheduling under condition of uniform headway operation, *International Journal for Traffic and Transport Engineering, 2015, 5(4): 400 - 405*, Posećeno 01.06.2016, http://ijtte.com/issues/64/

4.6. Zvanična publikacija

Republički zavod za Statistiku (RZS). (2010). Klasifikacija delatnosti. Beograd, Republika Srbi'a: Republički zavod za Statistiku.

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