

Possibilities for Public Sector Management Improvement by the Digitalization of Financial Management and Control System in the Western Balkan Countries

Vesna Novaković

Pan-European University APEIRON, Banja Luka; vesna.p.novakovic@apeiron-edu.eu

Mirjana Milovanović

Banja Luka College, Banja Luka; mirjana.milovanovic@blc.edu.ba

Dragan Gligorić

University of Banja Luka; dragan.gligoric@ef.unibl.org

Abstract

This paper investigated the opportunities for public sector improvement by digitalization Financial Management and Control (FMC) system in the Western Balkans (WB) countries. Optimizing business processes within public sector through the digitalization of the FMC system offers opportunities for public sector improvement.

Paper type: Research article

Received: November 23, 2022 Accepted: December 13, 2022

Citation: Novaković, V., Milovanović, M., Gligorić, D. (2022), "Possibilities for Public Sector Management Improvement by the Digitalization of Financial Management and Control System in the Western Balkan Countries, Vol. 2, No. 2, pp. 56 - 77.

DOI: https://doi.org/10.2478/jfap-2022-0009

The idea is to analyze the existing legal solutions on FMC system in the WB countries and evaluate the current level of digitalization of the system to find the abilities for improvement FMC. The data obtained through an interview with management persons in the Ministry of Finance of the WB Countries and key experts who worked on behalf of the EU as expert consultants on EU-funded projects. Also, we use secondary data collected by exploring literature and OECD reports. Since the database is limited, we use descriptive statistics to analyze the data and the case-study method. The digitalization of the entire system presented only at the entity and state level in Bosnia and Herzegovina. The research showed that the development of a quality FMC system can be enabled by the digitalization of the entire system. The main contribution of this paper is its focus on digitalization of FMC system, since there is limited research paper on this subject.

Keywords: Digitalization, Management, Public Finance, Western Balkan Countries, Public Internal Financial Control.

1. Introduction

The public sector plays a significant role in the economic structure of most countries and directly affects their social and economic development. It determines the success of every development plan. The development of the public sector began in the 18th and 19th centuries when the states took care of the needs of the wider social community that the private sector could not meet. The public sector, also, can be defined as a system of activities regulated by the state through laws, rules, and procedures, which elaborate on the constitutional freedoms and rights of citizens and their interests (Novaković and Sašić, 2015). According to the OECD Glossary of Statistics, the public sector includes the general government sector plus all public enterprises, including the central bank (OECD, 2005).

Institute of internal audit defines the public sector as the one that "comprises governments and all publicly controlled or publicly funded agencies, enterprises, and other entities that deliver programs, goods, and/or services established through public policy and legislation — to serve the public good, which is their overarching purpose. The main feature that distinguishes organizations from the public sector is that they are mandated to serve, protect, and promote the public good rather than create shareholder profit as in the private sector. Common examples of goods and services provided by public organizations include police, transportation, education, child

protection, health care, military, public administration, public space, and infrastructure" (The Institute of Internal Auditors, Inc., 2019).

If we observe the European Union, which is a significant factor in the world economic scene and whose membership aspires to the Western Balkans, one of the key roles of the public sector is to develop measures to ensure financial stability, fiscal consolidation, and an efficient and productive public sector (European Commission, 2014). The public sector is a significant part of a country's economy, which contributes hugely to financing the needs of the economy and is obliged to manage taxpayers' funds efficiently and effectively (European Commission, 2022).

In order to improve the control system in the public sector, following international standards and best practices in the EU, the European Commission 2002 created public internal control, abbreviated as PIC (European Commission, 2022). This model is globally recognized as the best practice that provides the foundations for the prevention of fraud and corruption. For an individual organization in the public sector, the PIC is defined as an integrated process, designed to identify risks, and accept opportunities to achieve reasonable responsibility for achieving results in the protection of the public interest (European Commission, 2022).

We will focus our research on existing legal solutions and bylaws on financial management and control systems and the current level of FMC digitalization in the Western Balkans to confirm or refute the hypothesis that FMC digitalization contributes to more efficient use of budget funds. The aim of this paper is to try to answer the problem question: "What are the opportunities for public sector improvement by the digitalization FMC system in the Western Balkans countries?".

Why we find FMC system so important for WB countries? FMC system is an integral part of the internal financial control system. Namely, all member states of the European Union have an established system of internal controls in the public sector, which is implemented in accordance with their general legal acts, mutually harmonized with the legislative, the executive, and the supreme audit institution. The concept of internal control is understood differently among the members of the European Union, but what is common to all is that it is accepted that this system contributes to improving business and successful financial management, proper, economical, efficient, and effective use of budgetary and public funds, protect the assets and resources of public sector entities (OECD, 2019).

"Effective Public Internal Control is at the heart of sound financial and non-financial management of both domestic and EU funds. In times of substantial pressure on public policies and public finances, it should ensure that the Member States achieve value for money in a legal, appropriate, ethical, and financially responsible way" (European Commission, 2017). The signing of the Stabilization and Association Agreement with the European Union has undertaken to establish a system of internal financial controls in all Western Balkan countries. Thus, Bosnia and Herzegovina is obliged to cooperate in the field of audit and financial control, which is defined in Article 90 of the Stabilization and Association Agreement. The subject cooperation is realized through the establishment of the system of financial management and control and independent internal audit, as well as through the establishment and strengthening of the Central Harmonization Units and the system of independent external audit (European Union, 2008). The basis for the establishment of PIFC in the public sector is international internal audit standards, i.e., five elements of the COSO framework (OECD, 2019). The elements are:

- 1. Control environment;
- 2. Risk management;
- 3. Control activities;
- 4. Information and communication;
- 5. Monitoring and evaluation of the system.

On the Figure 1 we can see graphic which present COSO model.

Figure 1. A visual representation of COSO's Internal Control—Integrated Framework - COSO Cube



Source: (McNally, 2013). Used with permission.

The control environment is the standard of internal control and the basis of the entire system. The internal control system will not be effective and efficient if the control environment is not set up in such a way as to respect the integrity and ethical values that are primarily applied by the management of the entity through its actions (Ministry of Finance of the Republic of Serbia, 2020). The management of the entity establishes standards of conduct through a code of conduct and through ethical values. The next element of the control environment is the professional expertise and competence of employees and the organizational structure that ensures the achievement of business goals while realizing the mission and vision of the entity.

Risk management is a process of identifying, assessing, and monitoring risks, taking into account the strategic goals of the entities defined in the strategic documents. It covers thinking in advance about potential events that may occur and taking timely measures to minimize risks, thus reducing adverse effects or consequences that institutions may face in the future (Ministry of Finance of the Republic of Serbia, 2020). Control activities are policies, procedures, and activities adopted by the management to achieve the organization's goals with minimal business risks. All these policies are documented in a business process book that is compliant with applicable legislation. Control activities are efficient, economical, and functionally related to planning documents, with the aim of protecting the resources and property of the public entity (Ministry of Finance of the Republic of Serbia, 2020).

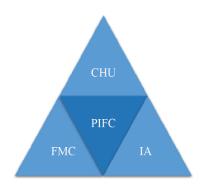
The system of internal financial control in the public sector is the entire system of all financial and non-financial controls established by the head of the entity in the public sector. The task of this system is to ensure reasonable assurance that public funds are being used and managed in accordance with the law, transparently, economically, efficiently, and effectively (Ministry of Finance of the Republic of Serbia, 2020). This system consists of the following three elements:

- Financial management and control (FMC);
- Internal audit (IA);
- Central Unit for Harmonization of Financial Management and Control and Internal Audit.

 (CHU)

The entire system of internal financial control in the public sector, its elements, and interconnections with the system, can be seen in Figure 2.

Figure 2. PIFC system elements



Source: (Ministry of Finance and Treasury of the Federation of Bosnia and Herzegovina, 2021)

The Central Harmonization Unit operates within the Ministry of Finance and its main role is to coordinate and develop the internal financial controls system in the public sector in all Western Balkan countries (OECD, 2022). When this system is established, it is the basis for economical, efficient, and effective use of budget funds, and its specificity is reflected in the fact that it is comprehensive because it documents all business processes and activities that take place in one entity. PIFC is performance-oriented. Considering the internal financial controls system, the basic principles on which public sector governance is based are accountability and transparency.

2. Literature review

A literature review found that digitalization in the public sector was announced as a way not only to improve services but also to enable data richness, access to data, and better interaction with other actors, to increase accountability and transparency of decision-makers in power (Agostino, et al., 2022). The advancement of information and communication technologies has the potential to create a substantial transformation in society by nurturing the ability to connect and cooperate with various social actors. In this way, it is necessary to initiate the digitalization of financial management and control systems. A smart government infrastructure that is more efficient than the current government is needed to increase the collective ability of individuals to organize, communicate, and manage to overcome complex social challenges (J. Ramon and Djoko, 2016). Over the last few decades, knowledge of how digitalization has evolved in the public sector has accumulated. It indicates the implications for the production and dissemination of new types of data and information, their use, and possible consequences (Agostino, et al., 2022). The opinion of some authors is reflected in the fact that the public sector has not escaped the wave of optimism

of big data, who believe that public authorities that use big data achieve significantly more positive results and benefits (Simon and Bram, 2019) Government managers and researchers now recognize the importance of technology, but technology itself is not the solution. The interaction between policy, management, and technology factors is necessary (J. Ramon, Ahmet, Theresa, and G. Brian, 2019).

Financial management and control are an integral part of the public sector's internal financial controls system. Although the name also contains the word financial, this segment of the internal control system consists of all processes that take place in one entity. FMC is a comprehensive system of internal controls that includes the organizational structure, methods, and procedures established by the leaders of public sector organizations, not only financial systems but also operational and strategic systems. The first step in establishing the FMC system, as well as a program budgeting, in the public sector, in all Western Balkan countries, is to change the mindset of the employees. They must accept the fact they are one link in a large system and perform only one part of the entire business process.

During establishing an FMC system, one of the key steps is to describe and list the business processes in the public entity. When all business processes are mapped, it becomes clear how the processes are connected in the entity, what number of financial resources are needed for a particular process, with the presentation of documentation related to that business process. The business process map is a good basis for understanding the functioning of existing internal controls and control procedures in the business entity.

Therefore, it is necessary to accept the process organizational structure. The essence of the process organizational structure is to design business processes to improve the quality of services provided to citizens because employees are provided with easy access to information, communication, and coordination of individual jobs are ensured to realize the central process (Operta, 2013). The basic characteristics of the process organizational structure are (Stojanović, 2012):

- The structure is formed around key processes, instead of tasks or functions,
- Independent teams are task bearers, not individuals,
- The responsibility lies with the owner of the process,

- Teams have more freedom and the opportunity to act independently,
- The culture of organizations is characterized by openness, trust, cooperation aimed at continuous improvement,
- Every process has its users, and when we focus on the process, there are more opportunities to focus on users,
- Determining the process owners who are responsible for the process avoids the current fragmentation of responsibilities,
- Value creation in the final product takes place in horizontal processes
- Process management provides greater time management capabilities.

"The process management approach requires:

- Making process documentation to obtain an understanding of how workflows through the process,
- Assigning process ownership to establish managerial accountability,
- Managing the process to optimize the measures of process performance
- Optimizing the process to enhance product quality or measures of process performance" (Raczyńska, 2016)

These are all components of the FMC system. The system of financial management and control is characterized by the following key features:

- Affects all aspects of the organization in the public sector (all employees, programs, processes, procedures, activities)
- It is a connecting element of the entire organization and is effective if all employees work together, as a team,
- Understands the qualities of good organization management and provides reasonable assurance that the organization is achieving its mission and its goals
- Constant review of the existing system of financial management and control provides important input information for improving and strengthening the system and more efficiently achieving the goals of the organization.

In the Western Balkan countries, the financial management and control system began with its implementation at the beginning of the new millennium, thanks to the strong support of the

European Union, through various project activities. The objectives of the projects were aimed at establishing a modern and efficient system of public financial management at all levels of government with the savings of public funds and their transparent spending. Thus, technical assistance was provided to Bosnia and Herzegovina through several projects: the PIFC (Public Internal Financial Control) project, which ended in 2011, the SPFM (Strengthening Public Financial Management) project, which ended in 2015, and the Improving Public Internal Financial Control project in Bosnia and Herzegovina (2018 – 2021) (Ministry of Finance and Treasury of Bosnia and Herzegovina, 2019).

In the Republic of Serbia, projects also are being implemented through which donors have directed money to strengthen the system of internal financial controls in the public sector. Some of the projects have been implemented, and some are still ongoing, such as the Twinning Project "Support for further development of internal financial control in the public sector IFKJ and local finance reform project – RELOF2" (Ministry of Finance of the Republic of Serbia, 2022). The process of establishing and strengthening the PIFC in North Macedonia began in 2002, and in 2009 the Law on the System of Internal Financial Controls was adopted (Official Gazette of Republic of Macedonia, 2009). During this period, and to date, numerous project activities have been carried out, such as the Project for Reforming of Public Administration in 2000, Developing Policies in the Internal Audit Field in the Republic of North Macedonia and training in 2004, Twining Project "Strengthening of Public Internal Financial Control System" in 2008. (Ministry of finance Republic of North Macedonia, 2022) and the Twinning Project "Strengthening the Functions Of Budget Planning, Execution And Internal Control 36 months (01.02.2020 – 01.02.2023)" (Ministry of finance Republic of North Macedonia, 2022).

In the past twenty years, we can say that in most Western Balkans countries, the legal and operational framework for the PIFC system has been established and is constantly evolving. Legal solutions were adopted, bylaws were adopted, strategic documents were adopted, and implementation began at all levels of government. Only in Montenegro is the situation regarding the policy plan that supports the further implementation of the PIFC stalled, and its operational framework is not complete (OECD, 2021). In Montenegro, according to the European Commission, (European Commission, 2020) the legal framework has existed since 2018. and 2019. and it is in line with international standards, while the strategic framework is partially

established. Regarding the adopted action plans for the improved Financial Control System, only half of the 120 budget users have adopted them. In North Macedonia (OECD, 2021) the FMC system is applied to central government organizations, foundations, municipalities, and the City of Skopje. The Ministry of Finance has published instructions on the managerial responsibility of budget managers and the role of financial managers in the PIFC system, and methodology for establishing FMC based on the COSO model. In Albania, the Law on Financial Management and Control has been in force since 2010, requiring internal control principles to be applied to the entire public sector, but there is still significant room for improvement in the overall PIFC system presented in the CHU document adopted by the Government of Albania in December 2020 (OECD, 2021). The Republic of Serbia has a legal basis for the FMC in the Law on Budget System (OECD, 2021) and significant number of bylaws have been adopted in previous period. While through the Twinning Project in 2020, numerous guidelines for FMC have been prepared and published, which include:

- Manual for financial management and control
- Guidelines for FMC in small public enterprises
- Risk management guidelines
- Guidelines for the management of irregularities
- Guidelines on delegation
- Guidelines on the concept of managerial responsibility.

The data in Figure 3 show that the implementation of the FMC in central government bodies is at a higher level than in other institutions. The weakest indicators are in risk management, as well as the monitoring and evaluation of elements of the COSO model.

Figure 3. Overview of financial management and control implementation in Serbia

	Central level							
Beneficiaries of public funds elements	Ministries	MSIOs1	Other direct budget beneficiaries	Indirect budget beneficiaries	Public enterprises at central level	Other public funds beneficiaries	Local level, total	Total
Financial management and control (FMC) reports submitted	18 (100%)	4 (100%)	36	295	30	154	393	945
Appointed FMC manager or working group	17 (94%)	4 (100%)	26 (72%)	118 (40%)	22 (73%)	109 (71%)	294 (75%)	601 (64%)
Business process maps	19¹	4 (100%)	19 (53%)	58 (20%)	20 (67%)	63 (41%)	227 (58%)	410 (43%)
Risk register established	221	4 (100%)	18 (50%)	81 (27%)	19 (63%)	78 (51%)	203 (52%)	425 (45%)
Implementation of FMC from the perspective of the COSO internal control framework ²								
Control environment	4.26	4.34	4.28	3.91	4.41	4.14	3.77	3.94
2. Risk management	4.23	4.73	4.04	3.55	4.29	4.02	3.69	3.76
3. Control activities	4.24	4.74	4.25	3.61	4.25	4,.15	3.82	3.86
Information and communication	4.32	4.72	4.36	4.25	4.61	4.5	4.17	4.29
Monitoring and evaluation	3.98	4.42	3.75	2.95	4.06	3.53	3.46	3.37

Source: (OECD, 2021, p. 145)

The best indicator of the phase in which the state is, regarding the establishment and progress of the FMC System, is the self-assessment questionnaire submitted annually to the CHU.

When we look at Bosnia and Herzegovina in terms of the FMC, the specifics of the state system must be considered. According to the report of the European Commission (European Commission, 2020) three CHUs have been established in Bosnia and Herzegovina, at the state and entity levels. All three CHU annually prepare reports on the establishment of internal financial controls in the public sector and submit them to the competent governments. The establishment of a system of financial management and control at the entity level (Republic of Srpska and the Federation of Bosnia and Herzegovina) has been active since 2016. Laws, bylaws, strategic documents, instructions, and manuals for the establishment of the FMC have been adopted.

However, the data show that the level of compliance with legal obligations is extremely low and unsatisfactory.

In the Republic of Srpska, in accordance with Article 2 of the Law on the System of Internal Financial Controls (Official Gazette of Republic of Srpska, 2016), there are over 1000 entities in the public sector that are obliged to establish a system of financial management and control. According to the CHU report from 2021, the person responsible for FMC was appointed in 320 subjects, while 227 subjects for 2020 submitted self-assessment questionnaires, which is an extremely low level, given the time since the Law on the System of Internal Financial Controls came into force (Ministry of finance, 2021).

In the Federation of Bosnia and Herzegovina, the situation regarding the FMC requires numerous improvements, as the public sector is far more extensive than the public sector of Republic of Srpska. The fact is that the number of submitted reports on the functioning of the FMC system is significantly increasing annually: in 2017, 287 reports were submitted, in 2018, 489 reports (Veledar & Letica, 2020), and in 2020, 568 annual reports were submitted by public sector organizations in the Federation of Bosnia and Herzegovina (Ministry of Finance and Treasury of the Federation of Bosnia and Herzegovina, 2021). However, after analyzing the submitted reports, the Central Harmonization Unit determined that additional efforts were needed to improve the FMC, with special emphasis on the advisory role in business process mapping and risk management development (Ministry of Finance and Treasury of the Federation of Bosnia and Herzegovina, 2021). The state governments did not remain immune to the wave of digitalization, with the development of information and communication technologies and the appearance of the fourth industrial revolution. They are increasingly using digital technology in their daily business.

3. Materials and Methods

Based on the collected data, literature review, and research, we came to the conclusion that in the Western Balkans, the work on the establishment of FMC systems are performed mostly manually, both in the competent institutions - Central Harmonization Units and all other users of public funds who are obliged to establish FMC. Business development in all economic activities, including the public sector, depends on the degree of digitalization of business processes. Special emphasis on the digitalization process was placed after the last crisis caused by the pandemic of the virus "Covid-19" when digitalization imposed itself as one of the priorities in business. To

answer the previously defined research problem we have prepared an interview, to collect relevant data and information.

The data collection technique was an interview. Considering the specificity of the research topic (public sector and the application of financial management and control through the Central Unit for Harmonization, which was formed as a special department within the Ministry of Finance), the method used for the data analysis research is descriptive analysis.

Responsible persons in the Ministry of Finance (Assistant Minister and Head of the Department for Financial management and control) and key experts who worked on behalf of the EU as expert consultants on EU-funded projects related to the PIFC system in the Western Balkan countries (Federation of Bosnia and Herzegovina, Republic of Srpska, North Macedonia, Montenergo) and Republic of Croatia were surveyed, as the only relevant respondents, so we have collected five responses. The survey was conducted during May and June 2022.

By reviewing the literature and summarizing the research results, we can conclude that the digitalization of the entire system is present only at the entity and state levels in Bosnia and Herzegovina. The interview contained questions regarding the degree of digitization of the FMC system, if the system is digitized, to which phase the digitization refers, whether only reporting has been digitized, or the work on creating a business process book and risk register has also been digitized.

The limitations of the research can be seen form the specificity of the topic, which narrowly focused us on a few people who can be surveyed. Another limitation is the lack of understanding of the importance of scientific research work by the appointed persons, since persons come to those positions on a political basis, and not thanks to the knowledge they have and have shown through their previous business engagement.

Out of seven possible participants, we have interviewed five of them, which makes 71.42% of the total possible population of respondents. The limitation of the research is also reflected in the lack of interest of the representatives of the line ministries from Serbia and Albania in our research.

4. Results

Within next line of the article, we will provide an overview of the results after conducted research. We asked our research associates whether the digitization activities of the FMC system are being carried out in their country. Positive answer was only from the representatives of Bosnia and Herzegovina (entities and central government) and they respond that complete process carried out during the project activities. Also, they stated that this is the greatest merit and influence of the EU strength directed to the improvement of the system of internal controls in Bosnia and Herzegovina.

Assistant to the Minister of Finance in the government of the Republic of North Macedonia clearly stated that there has been no progress regarding the digitization of the FMC system.

In the Republic of Croatia and Montenegro, system has been partially digitized. Montenegro and Croatia have a digitized system in terms of reporting, while the creation of a business process book and risk register is not. In the previous part of the paper, we mentioned that there were certain limitations regarding the lack of interest of representatives of Serbian government institutions in our scientific and research work.

However, for the Republic of Serbia, based on the information available on the official website of the Ministry of Finance, we can conclude that only reporting has been digitized through the application for electronic filing of reports and submission of documents via the website. The next question we discussed with our respondents was "Whether digitalization, in your opinion, will contribute to more efficient use of budget funds?" All respondents in the research affirmatively stated that digitization will contribute to the more efficient use of budget funds. And all answers were affirmative. This gives us an answer for the problem question What are the opportunities for public sector improvement by the digitalization FMC system in the Western Balkans countries? Digitalization will lead and it will contribute to more efficient use of budget funds.

Given that we had the opportunity to interview people who are in positions to make strategic decisions regarding the development of internal financial control systems, we gave them the opportunity to present their views on the advantages of digitizing the FMC system. The answers are as follows:

- from the point of view of the CHU: more efficient and faster consolidation in reporting,
- insight into the level of development of the FMC in each entity individually,
- the ability to create different reports (especially on risks), the ability to change data in realtime, all registers in one place
- improving the quality and rationalization of the use of human resources,
- avoiding mistakes,
- Standardization of methodology,
- consistent application of the methodology,
- reports available in real-time,
- automatic data processing,
- better quality of work because key stages in the processes cannot be skipped,
- more time for essential data analysis, etc.
- increased efficiency,
- fewer errors,
- increased transparency,
- improved decision-making.

As we stated before, the dynamics and development of the internal control system in the public sector of the Western Balkan countries largely depend on the support of the European Union, and through various project activities, it is continuously improving. Thus, through the project "Improvement of the system of internal controls in the public sector of Bosnia and Herzegovina" in 2021, implemented a software solution for managing identified risks, monitoring, developing, and reporting on the system of financial management and control in beneficiary institutions at all levels of government in Bosnia and Herzegovina, called "PIFC application". The software solution is based on the web and it works in four IT centers: the Ministry of Finance and Treasury of Bosnia and Herzegovina, the Federal Ministry of Finance, the Ministry of Finance of the Republic of Srpska, and the Finance Directorate of the Brcko District. Considering that the main goal of the project was to contribute to the reform of public financial management in Bosnia and Herzegovina by strengthening the capacity for FMC in the public sector at all levels of government, the project also funded training for application users. Since the basis of establishing FMC system is process

mapping it is through the "PIFC application", the software solution, the processes have been digitized and improved.

5. Discussion

The development of a quality FMC system is conditioned by the communication and cooperation of all interested parties, which can be enabled by the digitalization of the entire system. When the system of internal financial controls is established, the services provided by public entities to citizens should be provided with as few used financial resources as possible

Since the FMC is a comprehensive system of internal financial controls, including the organizational structure, the methods and procedures established by the managers of the organizations it must comply with applicable laws and regulations. It was necessary to change the regulations and bylaws, which was done, and through them, the mandatory use of PIFC software was introduced (Ministry of Finance and Treasury, 2021). The advantages of digitizing the FMC system which we may emphasize are the following:

- business processes are recorded in digital form in a single database,
- the formation of the business process map has been digitized,
- identification and assessment of risks, and their documentation in the risk register is carried out in a simpler and more uniform way,
- automatic creation of semi-annual and annual reports on the FMC system by entities,
- it is possible to upload regulations and internal procedures in accordance with which the institutions work,
- reporting and preparation of annual consolidated reports in the field of internal audit and FMC is enabled,
- automatic processing of data from the annual reports of public institutions on the FMC system at all levels facilitates the assessment of the current state of the FMC system and its quality.

In addition to all the above advantages of FMC digitalization, we can state that digitalization, directly and indirectly, contributes to the more efficient use of budget funds. Indirectly through encouraging managers in the public sector to start establishing a system of financial management

and control. Digitization directly affects a clearer overview of those responsible for individual business processes, which are documented through the "PIFC application" in the form of a business process map. However, we would like to place special emphasis on the need for quality and continuous education of both the FMC coordinator and the management of public sector entities on the importance of the PIFC system. The established PIFC system is the basis for economical, efficient, and effective use of budget funds.

Examples of good practice from Bosnia and Herzegovina, which has begun the process of digitizing the FMC system, should also be passed on to all other administrations in the Western Balkans. The main required characteristics are structured around four modules, as follows (Akta, 2022):

- Module for software administration
- FMC Monitoring Module
- IA Management Module
- FMC and IA Reporting Module

The advantage of digitalization of the system of financial management and control has led to an increase in the number of persons appointed for the FMC, for Republic of Srpska, the increase is 23% compared to previous years. Intensive implementation of the PIFC application will significantly facilitate the development and reporting of FMC entities of the higher-level public sector, as well as the supervision of higher-level entities over the entities for which they are competent (Ministry of Finance of the Republic of Srpska, 2022).

We draw special attention to the limitations we had during our research with regard to the subject of research, and the sluggishness of the public sector. One of the limitations of the development of the FMC system is the political situation in the Western Balkans. Due to these limitations, we often encounter the situation that the heads of institutions in the public sector are not aware of the importance of the system of internal financial controls, as well as that they prioritize other policies. It is necessary to make a series of essential reforms and not to establish a system for the sake of the system, but to accept the responsibility of managers for the proper functioning of the system of internal financial controls.

Based on the presented information, it can be concluded that it took two decades to establish a relatively solid operational and regulatory framework for the functioning of the PIFC, but its implementation in practice is weak. The operational framework shows the legal and regulatory framework, including planning and monitoring of the system to strengthen it. All administrations have established well-developed legal and operational frameworks that are in line with EU requirements for PIFC, CHUs have been established. Also, the plans to establish FMC systems are in place, along with plans and guidelines for implementation. However, the functioning of the PIFC shows its application in practice, which is at a fairly low level. At the regional level, according to Sigma's findings, the functioning of internal control in 2021 was reduced to 0.5 compared to the already weak indicators from 2017, which for the Western Balkans region amounted to 1.2. It is necessary to mention the mandatory application of financial management and control system on the own revenues generated by public institutions (Novakovic et al, 2022).

Employees in the public sector must accept the fact that the organizational structure must be changed into a process structure (Padula, 2013).

Up to date this is the first research paper focusing on the financial management and control, and its influence on the functioning of the public sector. We recommend that future research be focused on the possibility of integrating program budgeting, PIFC systems, and public financial management systems. Only when all three areas are interconnected we will be able to conclude that public administration functions in order to meet the needs of citizens with the most efficient and effective use of public funds, respecting the principles of legality and transparency.

References

Agostino, D., Saliterer, I., & Steccolini, I. (2022). Digitalization, accounting and accountability: A literature review and reflections on future research in public services. *Financial accountability and management 38*, pp. 152-176.

Akta.ba. (2020). Poziv na tender - Aplikacije zasnovane na vebu za nadziranje i upravljanje FUKom i implementacijom interne revizije (IR) u javnom sektoru u BiH u okviru Instrumenta za pretpristupnu pomoć (IPA) projekta tehničke pomoći Unapređenje javne interne finansijske kontrole (PIFC) u BiH. Retrieved from: https://www.akta.ba/Tender/poziv-na-tender-aplikacije-zasnovane-na-vebu-za-nadziranje-i-upravljanje-fuk-om-i-implementacijom/1388504

European Commission. (2014). *Information on the Public Internal Control (PIC) system, aimed at improving public sector performance in the EU*. Retrieved from:

https://ec.europa.eu/info/strategy/eu-budget/protection-eu-budget/public-internal-control en

European Commission, Directorate-General for Enterprise and Industry. (2014). *European Public Sector Innovation Scoreboard 2013 : a pilot exercise*. Retrieved from: https://data.europa.eu/doi/10.2769/72467

European Commission, Directorate-General for Budget. (2017). *Public Internal Control Systems in the European Union – Illustrating essential Internal Control elements*. Retrieved from: https://www.pempal.org/sites/pempal/files/event/2018/Internal%20Audit%20COP%20Events/Oc t29_Tbilisi%2C%20Georgia/files/2017-1_illustrating_essential_ic_elements_final.pdf European Commission, Directorate-General for Neighbourhood and Enlargement Negotiations. (2020). *Commission Staff Working Document: Bosnia and Herzegovina 2020 Report*. Retrieved from:

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0350&from=EN

European Commission, Directorate-General for Neighbourhood and Enlargement Negotiations. (2020). *Commission Staff Working Document Montenegro 2020 Report*. Retrieved from: https://neighbourhood-enlargement.ec.europa.eu/system/files/2020-10/montenegro report 2020.pdf

European Union. (2008). Stabilization and association agreement between the European communities and their member states, of the one part, and Bosnia and Herzegovina, of the other part. Retrieved from:

https://europa.ba/wp-content/uploads/2015/05/delegacijaEU 2011121405063686eng.pdf

Gil-Garcia, J. R., & Sayogo, D. S. (2016). Government inter-organizational information sharing initiatives: Understanding the main determinants of success. *Government Information Quarterly* 33(3), pp. 572-582. Retrieved from: https://doi.org/10.1016/j.giq.2016.01.006

Gil-García, J.R., Guler, A., Pardo, T.A., & Burke, G.B. (2019). Characterizing the importance of clarity of roles and responsibilities in government inter-organizational collaboration and information sharing initiatives,. *Government Information Quarterly*, 36(4). Retrieved from: https://www.sciencedirect.com/science/article/pii/S0740624X17302526

Law on Public Internal Financial Control. (Official Gazette of Republic of Macedonia, 90/2009, 12/2011, 188/2013 and 192/2015)

McNally, J. S. (2013). The 2013 COSO Framework & SOX Compliance: one approach to an effective transition. *Strategic Finance* (6), pp. 45-52.

Ministarstvo finansija Republike Srpske. (2021). Konsolidovani godišnji izvještaj o uspostavljanju I razvoju interne finansijske kontrole u javnom sektoru Republike Srpske na dan 31. 12. 2021. Retrieved from: <a href="https://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mf/Documents/%D0%9A%D0%BE%D0%BD%D0%BD%D1%81%D0%BE%D0%BB%D0%B8%D0%B8%D0%B8%D0%B2%D0%B2%D0%B0%D0%BB%D0%B8%20%D0%B8%D0%B8%D0%B2%D0%B0%D1%88%D0%B8

Ministarstvo finansija i trezora Bosne i Hercegovine. (2021). Konsolidirani izvještaj o sistemu finansijskog upravljanja i kontrole u institucijama Bosne i Hercegovine za 2020. godinu

Retrieved from:

https://ekonsultacije.gov.ba/legislationactivities/downloaddocument?documentId=1014866

Ministarstvo finansija i trezora Bosne i Hercegovine. (2019). *Godišnji konsolidovani izvještaj interne revizije za 2018. godinu.* Retrieved from https://ekonsultacije.gov.ba/legislativeactivities/details/8631-

Ministarstvo finansija i trezora Bosne i Hercegovine. (2021). Konsolidovani izvještaj o funkcioniranju sistema finansijskog upravljanja i kontrole u javnom sektoru u Federaciji Bosne i hercegovine za 2021. Godinu. Retrieved from: http://www.fmf.gov.ba/v2/stranica.php?idstranica=175&idmeni=25

Ministarstvo finansija Republike Srbije. (2020). Priručnik za finansijsko upravljanje i kontrolu koji se odnosi na uspostavljanje sistema upravljanja i interne kontrole u javnom sektoru Republike Srbije. Retrieved from: https://www.mfin.gov.rs//upload/media/Y9mZf8 601049f0c23dc.pdf

Ministarstvo finansija Republike Srbije. (2022). Donatorski projekti koji podržavaju IFKJ. Retrieved from: https://mfin.gov.rs/sr/o-ministarstvu-1/donatorski-projekti-koji-podrzavaju-ifkj-1

Ministarstvo finansija Republike Srpske. (2022). Centralna jedinica za harmonizaciju. Retrieved from: https://www.vladars.net/sr-SP-

Cyrl/Vlada/Ministarstva/mf/OM/harmonizacija/Pages/default.aspx#collapsible4

Ministry of finance of Republic of North Macedonia. (2022, 45). *finance.gov.mk*. Retrieved from finance.gov.mk: https://finance.gov.mk/strengthening-budget-planning-execution-and-internal-control-functions/?lang=en

Ministry of finance Republic of North Macedonia. (2022). *Strengthening Budget Planning, Execution and Internal Control Functions*. Retrieved from: https://finance.gov.mk/financial-control-2/?lang=en

Novakovic, V., Aleksic, M., & Milovanovic, M. (2022). Poreski tretman vlastitih prihoda u javnom sektoru. *Economy and Market Communication Review – EMC Review 12*(1), pp. 126-135.

Novaković, V., & Sašić, B. (2015). Odnos prosječne plate u javnom i privatnom sektoru u republici srpskoj shodno nivoima obrazovanja. *Economy and Market Communication Review* – *EMC Review*, 9(1), pp. 99-117.

OECD. (2005). *Glossary of statistical terms*. Retrieved from: https://stats.oecd.org/glossary/detail.asp?ID=2199

OECD. (2019). Guidelines for assessing the quality of internal control systems. Retrieved from: https://www.oecd-ilibrary.org/docserver/2a38a1d9-en.pdf?expires=1650211071&id=id&accname=guest&checksum=73684FD322D509F84ECBAD5F2A866FF9)

OECD. (2021). *Monitoring report: The principles of public administrations Albania*. Retrieved from: https://www.sigmaweb.org/publications/Monitoring-Report-2021-Albania.pdf

OECD. (2022). Monitoring report: The principles of public administrations Bosnia and Herzegovina. Retrieved from: https://www.sigmaweb.org/publications/Monitoring-Report-Bosnia-and-Herzegovina-May-2022.pdf

OECD. (2021). Monitoring report: The principles of public administrations Montenegro. Retrieved from: https://www.sigmaweb.org/publications/Monitoring-Report-2021-Montenegro.pdf

OECD. (2021). Monitoring report The principles of public administrations Republic of North Macedonia. Retrieved from: https://www.sigmaweb.org/publications/Monitoring-Report-2021-Republic-of-North-Macedonia.pdf

OECD. (2021). Monitoring report The principles of public administrations Serbia. OECD - SIGMA. Retrieved from: https://www.sigmaweb.org/publications/Monitoring-Report-2021-Serbia.pdf

OECD. (2022). Regional overview - Monitoring Reports: Western Balkans: The Principles of Public Administration. Retrieved from: https://www.sigmaweb.org/publications/Regional-Overview-Western-Balkans-Monitoring-February-2022.pdf

Operta, E. (2013). Javni menadžment lokalne uprave u funkciji razvoja lokalne zajednice. *Tranzicija*, 15(32), pp. 144-157.

Padula, A. (2013). An Innovative Public Value Chain to Improve Public Services. *International Journal of Advances in Management and Economics* 2(5), pp. 85-94.

Pierce, E., & Goldstein, J. (2018). ERM and strategic planning: a change in paradigm. *International Journal of Disclosure and Governance 15*(1), pp. 51–59. Retrieved from: doi:https://doi.org/10.1057/s41310-018-0033-3

Pravilnik o sadržaju izvještaja i načinu izvještavanja o sistemu finansijskog upravljanja i kontrole. (Službeni glasnik Republike Srpske, 1/22). Retrieved from: https://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mf/OM/h

Raczyńska, M. (2015). Process Management in Public Administration. *Acta Universitatis Nicolai Copernici - Zarządzanie 42*(2), pp. 79-91. Retrieved from: https://doi.org/10.12775/AUNC ZARZ.2015.048

Simon, V., & Bram, K. (2019). Techno-optimism and policy-pessimism in the public sector big data debate. *Government Information Quarterly*, *36*(4). Retrieved from: https://doi.org/10.1016/j.giq.2019.05.010

Stojanović, V. (2012). Struktura savremene procesno orijentisane organizacije. *Međunarodna konferencija Menadžment 2012: zbornik radova*, (Mladenovac 20-21.04.2012.). pp. 671-676

The Institute of Internal Auditors. (2011). *Supplemental Guidance: Public Sector Definition*. Retrieved from: https://www.theiia.org/en/content/guidance/mandatory/standards/public-sector-definition/

The Institute of Internal Auditors, Inc. (2019). *Unique Aspects of Internal Auditing in the Public Sector*. Retrieved from: https://iia.no/wp-content/uploads/2019/11/2019-PG-Unique-Aspects-of-Internal-Auditing-in-the-Public-Sector.pdf

Trklja, R., Dašić, B., & Trklja, M. (2014). Budzet Republike Srbije - pregled prihoda i rashoda. *Ekonomski signali: poslovni magazin 10*(2), pp. 43-56.

Retrieved from: https://scindeks-clanci.ceon.rs/data/pdf/1452-4457/2015/1452-4457/2015/1452-44571502043T.pdf

Uputstvo o načinu i postupku uspostavljanja i sprovođenja sistema finansijskog upravljanja i kontrole. (Službeni glasnik Republike Srpske, 99/17)

Veledar, B., & Letica, M. (2020). Challenges in Implementing the Concept of Public Internal Financial Controls in the Public Sector of Bosnia and Herzegovina. *ENTRENOVA - ENTerprise REsearch InNOVAtion* 6(1), pp. 187–194. Retrieved from: https://www.econstor.eu/bitstream/10419/224687/1/18-ENT-2020-Veledar-187-194.pdf

Zakon o sistemu internih finansijskih kontrola u javnom sektoru Republike Srpske. (Službeni glasnik Republike Srpske, 91/16).

Retrieved from: https://www.narodnaskupstinars.net/?q=la/akti/usvojeni-zakoni/zakon-o-sistemu-internih-finansijskih-kontrola-u-javnom-sektoru-republike-srpske

Sažetak

Ovaj rad je istraživao mogućnosti za unapređenje javnog sektora putem digitalizacije sistema finansijskog upravljanja i kontrole (FMC) u zemljama Zapadnog Balkana. Optimizacija poslovnih procesa u javnom sektoru kroz digitalizaciju FMC sistema pruža mogućnosti za unapređenje javnog sektora. Ideja je da se analiziraju postojeća zakonska rešenja o FMC sistemu u zemljama Zapadnog Balkana i procjeni trenutni nivo digitalizacije sistema kako bi se pronašle mogućnosti za unapređenje FMC. Istraživanje je pokazalo da se razvoj kvalitetnog FMC sistema može omogućiti digitalizacijom čitavog sistema. Glavni doprinos ovog rada je njegov fokus na digitalizaciju FMC sistema, budući da postoji ograničen istraživački rad na ovu temu.

Ključne riječi: digitalizacija, menadžment, javne finansije, zemlje Zapadnog Balkana, interna finansijska kontrola u javnom sektoru