

Technology | Engineering | Management | Entrepreneurship | Learning | International Journal





PUBLISHER: EURO STARTER

Street Address: Braka Miladinovi no. 406/6, Tetovo

Country: Republic of North Macedonia

temel.journal@gmail.com

http://temel-ij.org

EDITORIAL BOARD

Roberto Pasic, Faculty of Technical Science - Bitola, Republic of North Macedonia - editor in chief

Ivo Kuzmanov, Faculty of Technical Science - Bitola, Republic of North Macedonia - editor in chief

Kazumi Nakamutsu, University of Hyogo, Japan

Alexandru-Mircea Nedelea, Stefan cel Mare University of Suceava, Romania

Elitza Iordanova, Faculty of Design, Media & Management, Buck New University, UK

Marius Sikveland, University of Stavanger, Norway

Ajda Fosher, Faculty of Entrepreneurship, Slovenia

Stevo Borojevic, University of Banja Luka, BiH

K.B. Akhilesh, Indian Institute of Science, India

Aleksandar Erceg, Strossmayer University in Osijek, Croatia

Marina Letonja, Faculty of Entrepreneurship, Slovenia

Stanislav Ivanov, Varna University of Management, Bulgaria

Marjana Mekac, Faculty of Entrepreneurship, Slovenia

Nemanja Kasikovic, Faculty of Technical Science, University of Novi Sad, Serbia

Ivan Mihajlovic, Technical Faculty in Bor, University of Belgrade, Serbia

Renata Stasiac, Czestochowa University of Technology, Poland

Mitja Jeraj, Faculty of Entrepreneurship, Slovenia

Zivan Zivkovic, Technical Faculty in Bor, University of Belgrade, Serbia

Włodzimierz Sroka, University of Dabrowa Gornicza, Poland

Rumiana Lazarova, Bulgarian Academy of Science, Bulgaria

Ljubisa Stefanoski, Int. Slavic University-Gavrilo Romanovic Derzavin, Republic of North Macedonia

Agim Mamuti, University of New York, Albania

Vita Jukneviciene, Siauliai University, Luthuania

Jarmila Sebestova, Silesian University in Opava, Czech Republic

Joanna Cygler, Warsaw School of Economics, Poland

Michal Varmus, University of Žilina, Slovakia

Jarmila Zimmermannova, Moravian University College Olomouc, Czech Republic

Cristiano Fragassa, University of Bologna, Italy

Ramona Birau, University of Targu Jiu, Romania

Regina Zsuzsánna Reicher, Keleti Faculty of Business and Management, Hungary

Sinisa Zaric, University of Belgrade, Serbia

Jasmina Okicic, University of Tuzla, BiH

Özgür Yalçınkaya, Dokuz Eylül University, Engineering Faculty, Turkey

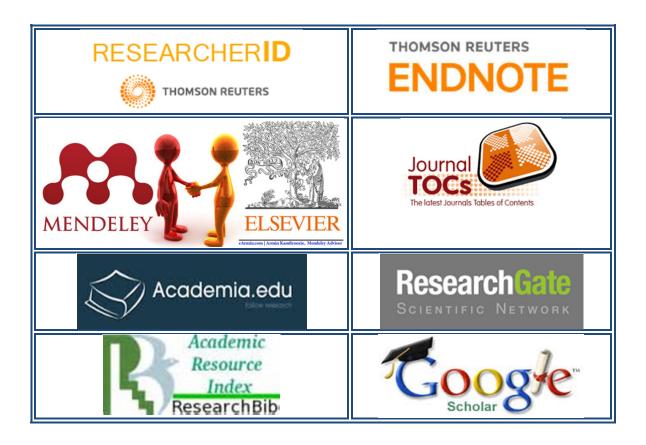
Jamila Jaganjac, University Vitez, BiH

Natalia Konovalova, RISEBA University, Latvia

Siyka Demirova, Technical University of Varna, Bulgaria

Margareta Nadanyiova, University of Zilina, Slovakia

Indexing and Abstracting – TEMEL International Journal



Content:

PAPER TITLE	PAGE No
ESPRESSIF ESP32 DEVELOPMENT BOARD IN WIFI STATION COMMUNICATION MODE – Roberto Pashic, Ivo Kuzmanov, Kokan Atanasovski;	1 - 6
THE IMPORTANCE OF INTRODUCING INTERNAL CONTROL IN THE TOP DECISION MAKING PROCESS IN THE INDUSTRIAL COMPANY IN THE	
REPUBLIC OF SERBIA – Milan Radović, Jelena Vitomir, Slobodan Popović;	7 - 11
STATIONARY ACCU BATTERIES FOR UNINTERRUPTED POWER SUPPLY SYSTEM OF THE POWER FACILITIES – Natasa Mojsoska;	12 - 20
SMART GOVERNANCE: THEORETICAL DISCOURSE – Rytis Milkintas;	21 - 31
IMPLEMENTATION OF INTERNAL AUDIT BY TOP MANAGEMENT IN AN	
INDUSTRIAL ENTERPRISE IN TRANSITION COUNTRIES LIKE THE REPUBLIC OF SERBIA – Jelena Vitomir, Milan Radović, Slobodan Popović;	32 - 38
TEMPORARY EMPLOYMENT: SITUATION AND POSSIBILITIES – Erika Meškienė, Teodoras Tamošiūnas;	39 - 48
IMPLEMENTATION OF CULTURAL POLICY AT LOCAL LEVEL: THE CASE OF ŠIAULIAI CITY MUNICIPALITY – Rytis Milkintas;	49 - 58
INTERNAL AUDIT AS AN IMPORTANT PROCESS IS RELATED TO DECISION MAKING OF TOP MANAGEMENT IN INDUSTRIAL COMPANIES IN THE REPUBLIC OF SERBIA – Stojanka Radović;	59 – 65
THE THEORETICAL ASPECTS OF THE COOPERATION OF SMALL AND MEDIUM-SIZED BUSINESS ENTERPRISES – Gvidas Petružis, Teodoras Tamošiūnas	66 – 74
OBSERVATION OF INTERNAL AUDIT WITHIN THE TRANSITION PROCESSES IN THE REPUBLIC OF SERBIA IN INDUSTRIAL AND OTHER COMPANIES –	
Bogdan Laban, Ivan Arnautović, Maja Jokić, Dragana Popović, Zoran Mihailović, Dragan Mihailović	75 - 81



ESPRESSIF ESP32 DEVELOPMENT BOARD IN WIFI STATION COMMUNICATION MODE

Roberto Pashic, PhD., Associate Professor, Faculty of Technical Science – Bitola roberto.pasic@uklo.edu.mk

Ivo Kuzmanov, PhD., Associate Professor, Faculty of Technical Science - Bitola ivo.kuzmanov@tfb.uklo.edu.mk

Kokan Atanasovski, BSc student, Faculty of Technical Science – Bitola atanasovskikokan@gmail.com

Abstract: The purpose of this paper is to present the possibilities offered by the ESP-NOW communication protocol on the development board ESP32 from Espressif [1]. The main problem in data acquisition from different sensor nodes is the lack of access to a local wireless network (locations outside the urban environment, urban periphery...). ESP32 is dual core MCU with WiFi and Bluetooth built-in, 240MHz clock frequency with 512KB RAM, 36 pins with wide variety of available peripherals: ADCs, DACs, UART, SPI, I2C, CAN2.0, PWM with built-in hall effect sensor and built-in temperature sensor. On the market, one of the best development board based on ESP32 mcu is DOIT ESP32 DEVKIT V1.

Keywords: Development board, MCU, ESP32, ESP-NOW, Measurement, Data acquisition.

1. INTRODUCTION

Today's measuring and acquisition systems are in widespread use, for example measuring systems for process control in various production plants, measuring systems for measuring air quality, measuring systems for traffic management...Characteristic problem for all of them is the storage of the measured data, especially when there is a need for real time measurements and display data. Wireless communication offers almost unlimited possibilities for collecting measured data.

ESP-NOW is a connectionless Wi-Fi communication protocol that is defined by Espressif [1]. Application data in ESP-NOW is encapsulated in a specific action frame and then transmitted from one Wi-Fi device to another without connection. CTR with CBC-MAC Protocol (CCMP) is used to protect the action frame for security. ESP-NOW supports the following features [2]:

- Encrypted and unencrypted unicast communication,
- Mixed encrypted and unencrypted peer devices,
- Up to 250-byte payload can be carried,
- The sending callback function that can be set to inform the application layer of transmission success or failure.

ESP-NOW technology also has the following limitations:

- Broadcast is not supported,



- Limited encrypted peers. 10 encrypted peers at the most are supported in Station mode; 6 at the most in SoftAP or SoftAP + Station mode. Multiple unencrypted peers are supported, however, their total number should be less than 20, including encrypted peers,
 - Payload is limited to 250 bytes.

The default ESP-NOW bit rate is 1 Mbps. The format of the vendor-specific action frame is as follows:

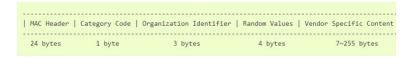


Fig.1: Format of the specific action frame

- Category Code: The Category Code field is set to the value (127) indicating the vendor-specific category.
- Organization Identifier: The Organization Identifier contains a unique identifier (0x18fe34), which is the first three bytes of MAC address applied by Espressif.
- Random Value: The Random Value filed is used to prevents relay attacks.
- Vendor Specific Content: The Vendor Specific Content contains vendor-specific fields as follows:



Fig.2: Vendor-specific fields

- Element ID: The Element ID field is set to the value (221), indicating the vendor-specific element.
- Length: The length is the total length of Organization Identifier, Type, Version and Body.
- Organization Identifier: The Organization Identifier contains a unique identifier(0x18fe34), which is the first three bytes of MAC address applied by Espressif.
- Type: The Type field is set to the value (4) indicating ESP-NOW.
- Version: The Version field is set to the version of ESP-NOW.
- Body: The Body contains the ESP-NOW data.

As ESP-NOW is connectionless, the MAC header is a little different from that of standard frames. The FromDS and ToDS bits of FrameControl field are both 0. The first address field is set to the destination address. The second address field is set to the source address. The third address field is set to broadcast address (0xff:0xff:0xff:0xff:0xff:0xff). ESP-NOW uses the CCMP method, which is described in IEEE Std. 802.11-2012, to protect the vendor-



specific action frame. The Wi-Fi device maintains a Primary Master Key (PMK) and several Local Master Keys (LMK). The lengths of both PMK and LMk are 16 bytes.

2. PRESENTING THE METHOD AND POSSIBILITIES

ESP-NOW allows to exchange data between several ESP32 boards programmed with Arduono IDE. Multiple devices can tock to each other in an easy way.



Fig.3: ESP-NOW one-way communication protocol [3]

After pairing a device with each other, the connection is persistent. It very important to know, if suddenly one of your boards loses power or resets, when it restarts, it will automatically connect to its peer to continue the communication.



Fig.4: ESP-NOW two-way communication protocol [3]

In order to be able to communicate between multiple ESP32 via ESP-NOW, it is essential to know the ESP32 receiver MAC address. In this way it is determined which ESP32 node will receive the data. Each ESP32 board has unique MAC address.

Sender sketch must include:

- Initialize ESP-NOW;
- Register a callback function upon sending data;
- Add a peer device (the receiver with MAC address);



- Send a message to the peer device.

Receiver sketch must include:

- Initialize ESP-NOW;
- Register for a receive callback function;
- Inside that callback function save the message into a variable to execute any task with that information.

In our case, we test communication range between two ESP32 boards, and we have stable communication up to 190 meters in open field.

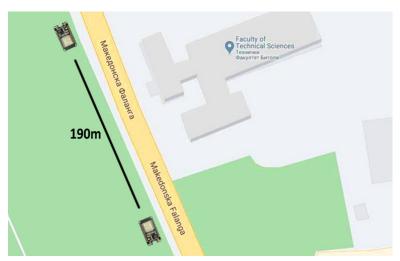


Fig. 5: ESP-NOW communication range

3. EXPERIMENTAL PART

In our case, it has been tested ESP-NOW one-way communication protocol between two senders and one receiver ESP32 boards. Each sender has a combined sensor for measuring temperature and relative humidity based on AM2301.



Fig.6: AM2301 temp/hum sensor



In order to be able to communicate between multiple ESP32 via ESP-NOW, it is essential to know the ESP32 receiver MAC address.

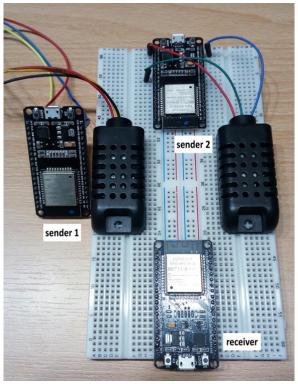


Fig.7: Two senders and on receiver ESP32 boards in one-way ESP-NOW comm. protocol

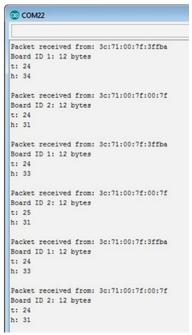


Fig.8: Arduino IDE serial monitor from receiver ESP32 board



4. CONCLUSION

This communication protocol ESP-NOW from Espressif will greatly alleviate the problems of retrieving the measured data from sensor nodes placed in environments where there is no possibility to connect to a local wireless network. Robust design, ultra-low power consuptation, high level of integration and hibrid wifi and bluetooth chip on ESP32 MCU are ideal features of a platform for solving complex problems in real measurement systems and data acquisition from sensor node groups.

REFERENCES

- [1] espressif.com/en.
- [2] Espressif Systems CO., LTD; ESP-IDF Programming Guide.
- [3] https://randomnerdtutorials.com/esp-now-esp32-arduino-ide/
- [4] I. Kuzmanov, R. Pashic. Real impact of the microclima changes to workers we circulate from hot to cold chambers a part from an extensive research into industrial entity. Temel International Journal, Vol.3.Iss.2. Dec.2019.
- [5] Temperature / Humidity module AM2301, https://mikroshop.ch/pdf/DHT21.pdf



THE IMPORTANCE OF INTRODUCING INTERNAL CONTROL IN THE TOP DECISION MAKING PROCESS IN THE INDUSTRIAL COMPANY IN THE REPUBLIC OF SERBIA

Milan Radović¹, Jelena Vitomir², Slobodan Popović³

Abstract: Internal control should ensure the safety of top management in a wide variety of businesses. However, the authors of the paper point out that it is of particular importance to establish control in industrial enterprises, as industrial enterprises are the drivers of economic activity development in a country that seeks to achieve faster economic growth. Introducing internal control into the regular control flows, in order to ensure the proper functioning of the established management processes in the company is of great importance, especially risk management.

In addition, internal control contributes to the increase of the control function and management of the company, that is, the management processes, in order to achieve the basic goals of company functioning established by the top management of the industrial company at its core management.

The control thus observed enables an increasing number of functions in an industrial company to be performed in the best possible way in order to maximize profits. Internal control reports in the form of recommendations are submitted to top management in order to optimize the management of the company.

Key words: *Internal control, modeling, efficiency, enterprice.*

1. THE PROCESS OF INTRODUCING INTERNAL CONTROL IN INDUSTRIAL ENTERPRISES IN THE REPUBLIC OF SERBIA

Top management, if it is to improve overall business results, starting with increasing production, increasing turnover and increasing profits, must pay attention to internal control recommendations. From the point of view of top management of an enterprise that gives the authority to work in internal control in most cases in industrial enterprises, the process of control begins with control within the accounting sector of the company [1], [2], [3], [4], [5]. Internal control should make recommendations that will enable the elimination of irregularities in the functioning of an industrial enterprise [6], [7], [8], [9], [10].

¹University of East Sarajevo, Economic Faculty of Pale, Alekse Šantića 3, Pale 71240, Bosnia and Herzegovina ²Megatrend University, Maršala Tolbuhina 8, 11000, Beograd, Serbia

³Corresponding author: Slobodan Popović, JKP Gradsko Zelenilo Novi Sad, Temerinski put bb, 21000 Novi Sad, Serbia, E-mail: slobodan.popovic49@gmail.com.



The results of internal control work are visible in top management reports provided by internal control and should be taken into account by top management in order to improve the company's real-time functioning for profit.

Thus, internal control can become a driver of better work and development for industrial companies [11], [12], [13], [14], [15], because accepting the results that internal control has led to will reduce the risk of doing business in the company. In addition to the general approach of internal control, it should be emphasized that the findings of internal control should provide guidance for the future work of top management [16], [17], [18], [19], [20].

Internal control should operate in compliance with the laws of the country in which the company operates and create surplus value, which is the primary objective of all companies.

2. RESPECTING RISK ON TOP MANAGEMENT WORKED OVER THE INTERNAL CONTROL WORK

The risk in the business of top management is essential to know and establish mechanisms by which measures would be taken by top management to eliminate the influence of risk factors on the business operations. One way to reduce the impact of a large number of risks is to have internal controls identify key risks for the enterprise. In the following, the authors present an overview of risk factors that fundamentally influence the work of top management. Relevant macro risks relevant to internal audit may be:

- Prices,
- credit,
- liquidity risk (financing risk),
- · cash flow risk,
- the risk of default,
- accidental risk,
- the risk of price changes and
- inflation risk.

The identification of audit risks is related to internal audit standards. Proper understanding of risk is essential for future business management. Only a comprehensive knowledge of risk management will enable their proper assessment and quality of implementation of modern risk management in an industrial enterprise.

3. RISK MONITORING IN BASIC TOP MANAGEMENT OBSERVATION

The authors, in order to show the importance of observing the flow of risk to the business of the company, give a possible schematic view in the form of Figure 1 depicting the flow of basic decision-making stages that are conditioned by respecting the risks identified by internal controllers in the company, or how the flow of decision making in such observation in the company.

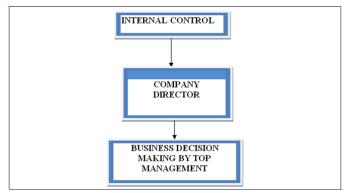


Fig. 1 Model of harmonization of internal control mechanisms.

4. REVIEW OF POSSIBLE INDICATORS SUBJECT TO INTERESTING INTERNAL CONTROL AUTHORITIES IN INDUSTRIAL COMPANY SUBMITTED TO MAKE VALIDABLE BUSINESS MANAGEMENT DECISIONS

Internal control in companies does numerous analyses to monitor the business of the company. As an example of useful documentation that emerges from the work of internal control, the authors present in Table 1 an overview of indicators that can be used to monitor indicators that are vital to the functioning of the enterprise.

To create the table, the authors have taken the period of the 6 years in an industrial enterprise in the Republic of Serbia, which is the largest medium-sized enterprise according to the classification of enterprises.

INDICATORS	YEARS OF OBSERVATION					
	1	2	3	4	5	6
Profit margin	1	0	0	0	0	0
Crafts of total property	1,96	2,06	2,4	2,64	2,64	2.59
Craft business property	1,96	2,06	2,4	2,64	2,64	2.59
Fixed property crafts	4,73	5,4	6,67	6,44	6,65	6.17
Crafts property	3,24	3,57	3,72	3,77	4,25	4.48



5. CONCLUSION

In the Republic of Serbia, top management decisions that are made based on the use of initial decisions made through the use of internal control work are becoming increasingly prominent. Thus, top management wants to take into account the opinion of internal control bodies that it has formed in order to make certain business decisions that are important for the business of the company.

In addition, at the request of management, certain additional reporting of internal controls is adopted. In this paper, the authors provide a general overview of the adoption of internal control bodies, that is, internal control in reporting to an industrial enterprise, which creates the process of making valid business decisions within the work of top management that manages the enterprise.

The work can serve in other companies as well as in non-industrial companies as a model for bringing future top management actions in terms of improving results.

The basic conclusion that arises from the work is that the top management of the company should introduce internal control, because its work will increase the security of functioning of all parts of the company in the real time of observation.

REFERENCES

- [1] Vukasović, D., Martinov, D. (2018), Analiza finansijskih indikatora troškova nabavke, *Svarog*, 16:151-159.
- [2] Vukasović, D. (2010). Računovodstvene informacije u službi korporativne decentralizacije, *Svarog*, No. 1: 181-188.
- [3] Vukasović, D. (2011). Konurentnost i globalna liberalizacija kapitala, Svarog, 3: 127-133.
- [4] Vukasović, D., Kovačević, Ž. (2013). Značaj analize angažovanih sredstava preduzeća u restruktuiranju, *Svarog*, 6: 223-230.
- [5] Vukaosović, D, Novaković, S. (2015). Likvidnost kao razvojna komponenta u sezonskim varijacijama finansijskih tokova, *Svarog*, 10: 206-2012.
- [6]Popović S. (2014). Socio-ekonomski faktori ograničenja razvoja agrara, Feljton, Novi Sad.
- [7]Popović, S, Majstorović, A, Grublješić, Ž. (2015). Valuation of facilities in use and application of international accounting standards, *Actual problems of economics*, No. 3.
- [8]Bojović, R., Popović, V., Ikanović, J., Živanović, Lj., Rakaščan, N., Popović, S., Ugrenović, V & Simić, D. (2019). Morphological characterization of sweet sorghum genotypes acrossen vironments, *The J. Anim. Plant Sci.* 29(3):2019.
- [9]Popović, S (2015). Implementacija heterogenih rizika u radu interne revizije, *Revizor*, 69/2015, 7-19.
- [10]Popović, S. (2015). Interna revizija kao pokretač finansijske analize u javnim preduzećima RS, *Revizor*, 72/2015, 41-53, 2015.
- [11] Novaković, S., Vukasović, D. (2015). Upravljačko računovodstvo u funkciji povećanja produktivnosti preduzeća u restruktuiranju, *Svarog* No. 1: 172-181.
- [12] Vukasović, D. (2016), Uloga računovodstva u kontinuelnom upravljanju finansijskim tokovima u nestabilnim finansijskim uslovima, *Svarog* 13: 151-160.



- [13] Vidicki, Đ., Vrkatić, L., Vukasović, D. (2018), Ekološki i zdravstveni turizam iz perspektive građana Novog Sada, *Svarog*, 16: 160-172.
- [14] Terzić, D., Popović, V., Malić, N, Ikanović, J, Rajičić, V., Popović, S., Lončar, M & Lončarević. V. (2019). Effects of long-term fertilization on yield of siderates andorganic matter content of soil in the process of recultivation. *The J. Anim. Plant Sci.* 29(3):2019.
- [15]Popović, S., Đuranović, D., Laban, B., Ivić, M., Jovin, S., Nastić, S., Grublješić, Ž., Popović, V. (2018), Impact of different light intensity on the production of the plant narcissus I. and its financial effects, *Economics of Agriculture*, 4: 1359-1370.
- [16] Novaković, S., Bogdan, L., Vukasović, D., Ivić, M., Popović, V., Popović, S. (2018), Internal and external audit as a factor in improving the management of the Agricultural enterprise, *Polioprivredna tehnika*, 4: 8–12.
- [17]Popović S., Ćemalović, M. and Mijić R. (2017), Ecological and economic aspects of hazardous waste management and sustainable development in the Republic of Serbia. *Actual problems of economics*, No. 6(192) 53-59.
- [18]Popović, S., Tošković, J., Grublješić, Ž, Đuranović, D. and Petrović, V. (2016), Importance of planning internal audit transition countries observed over public sector of the economy in Serbia, *Annals*, Economy Series, 2/2016.
- [19] Popović, S., Ivić, Lj., Đuranović, D., Mijić, R. and Ivić, M. (2016), The importance of establishing a financial analysis in Serbia. *Annals*, Economy Series, 5/2016, 184-188.
- [20]Popović, S., Novaković, S., Đuranović, D., Mijić, R., Grublješić, Ž., Aničić, J. & Majstorović, A. (2017), Application of international accounting standard-16 in a public company with predominantly agricultural activities, *Economic Research-Ekonomska Istraživanja*, 30: 1, 1850–1864.



STATIONARY ACCU BATTERIES FOR UNINTERRUPTED POWER SUPPLY SYSTEM OF THE POWER FACILITIES

Natasa Mojsoska¹

Abstract: Main issue in this paper work are different kind of batteries, their characteristics and maintenance methods. A special review of the accu batteries is given, and the results of the examination of the accu battery are given. Analyses of the results confirmed necessity of regular examination of battery, witch are system of uninterrupted supplies.

Keywords: Battery, uninterrupted power supply, NiCd, measurement.

1. INTRODUCTION

Batteries are electrochemical power sources that release energy in a controlled manner. Electricity to direct current is converted into chemical energy (charge), which is stored in the battery and connecting consumers chemical energy is converted into electricity (discharge). The battery has one or more cells connected in series constitute a battery accumulative. Each cell has a positive and negative electrodes immersed in an electrolyte.

2. TYPES OF ACCU BATTERIES AND FEATURES

According purpose can be:

- 1. Stationary batteries for uninterrupted power supply systems, mostly lead, Fig. 1
- 2. Starter batteries for bringing vehicles Fig. 2
- 3. Traction batteries Fig. 3 to drive forklifts, mine locomotives, electric vehicles etc.
- 4. Sealed batteries Hermetically sealed, do not require any maintenance and used in rooms where it is not allowed evaporation of electrolyte, rooms in the presence of people. Used in small UPS systems for computers, torches, small cars and so on. (Type FG, SLA) Fig. 4.







Fig. 2 Starter batteries

Corresponding author: ¹Natasa Mojsoska is with the Technical Faculty-Bitola at University St Kliment Ohridski of Bitola, Macedonia, E-mail: natasa.mojsoska@tfb.uklo.edu.mk



Fig. 3 Traction batteries



Fig. 4 Sealed batteries

2.1. LEAD-ACID BATTERIES

Commonly are used for stationary use consist of a series of single cells with a nominal voltage of 2V or mono block batteries with 3 and 6 cells, where voltages are 6V or 12V. Performed as stationary batteries in a single array and batteries in series have additional cells (accessory) that are typically 10% of the number of cells in the main series. This provides further provided backup voltage automatically used be included in a voltage drop below the minimum allowable value.

Basic elements of accu battery:

- Positive electrode (lead-superoxide PbO₂)
- A negative electrode (pure porous lead Pb)
- Electrolyte (diluted sulphuric acid H₂SO₄)
- Separator (insulator which is set between the positive and negative plate, porous to allow passage of electrons from one to another).

Nominal voltage per cell 2V. Highest voltage charging 2,65 V per cell. The lowest voltage of discharge:

- 1,75V per cell, the discharge time of 1-3 h,
- 1,80V per cell, the discharge time of 3 -10 h,
- 1,90V per cell, with discharges exceeding 10 h.

Concentration of the electrolyte: In full battery $1,240 \pm 0,01$ g/cm³, be it with an empty battery 1,150 g/cm³.

- Ah usefulness: Ah transmitted / received Ah = 0.85 / 0.95,
- kWh usefulness: delivered kWh / received kWh = 0,75,
- for 3 to 10 h discharge, a = 0.70 for 1 h discharge.

The capacity of the stationary accu batteries is 7.5 to 14 Ah / dm³ of the positive plate (excluding the surface from only one side).



Fig. 5 Lead acid battery

2.2. NiCd (NICKEL CADMIUM) BATTERIES

Nickel cadmium batteries are quite expensive in terms of lead and are considered more reliable and require less maintence. In aspect of environmental protection NiCd batteries less polluting than lead acid batteries. Emissions of vapors in the mode of discharging and charging are smaller than emissions from lead acid batteries.

Key elements of the alkali (NiCd) batteries are:

- Positive electrode (nickel oxide hydroxide- NiO(OH))
- A negative electrode (cadmium in the form of powder metallic Cd)
- Electrolytes (potassium hydroxide -KOH)
- Nominal voltage per cell 1,2V



Fig. 6 NiCd battery

3. APPLICATION OF STATIONARY ACCU BATTERIES

Solid-state accu batteries according leaning reserve power source in power plants. They are connected to the busbar of DC auxiliary voltage parallel with rectifier, which is powered by an AC voltage network or transformer for domestic consumption in the plant. In the presence of AC voltage batteries are in a constant recharge and consumers are powered by the rectifier. Upon failure of intermittent power to the rectifier, accumulator battery automatically takes power supply ensuring continuity.

In the last 20 years has a great technological advances in the production of batteries of following the trend of rapid development of sophisticated electronic devices, equipment and



mobile telecommunications. For these needs commonly used dry solid-state batteries Li + (Li-Ion), Li-polymer (Ly-poly), Li-copolymer (Li-ion-poly) and NiMH (nickel-metal-hydride), which use squeezed out NiCd and sealed lead acid batteries. But for stationary applications where a rule batteries are with high capacity (from a few dozen to several thousand Ah), for commercial use commonly used lead acid, and less NiCd batteries.

Generally, accu batteries are with different life cycle. The main parameters that have a special impact on are:

- Ambient temperature
- The number of cycles charge discharge
- Voltage charging
- Alternating current component of the charge- maintenance
- Deformation of the positive electrode corrosion
- Carbonation
- Memory effect

Different batteries differently submitted harmful influences. For optimum battery used, it is necessary to provide the appropriate conditions, adequate room ventilation, air conditioning.

4. PRINCIPLE AND PROCEDURE FOR CAPACITIVE TEST OF STATIONARY ACCUBATTERY

- 1. First connect mobile battery in parallel and solid-state battery is disconnected from the rectifier and the system of DC line and while capacitive probe is underway, consumers are supplied by mobile backup battery.
- 2. The battery is connected to the emptying device and connects each part individually. According to the type of battery, voltage level and capacity, with relevant technical parameters is defined end voltage per cell and discharge current. This current during the whole procedure should be constant as recommended by the manufacturer and the technical norms. Than the process of capacitive discharge can begin.
 - 3. During the capacitive sample parameters are measured and recorded:
 - Voltage of each cell individually every hour and after 4 hours for every 15 min.
 - Concentration of electrolyte before start and after completion of the sample (to the batteries with liquid electrolyte)
 - The temperature of the electrolyte (the batteries with liquid electrolyte)Voltage charging
- 4. After realization of capacitive sample solid-state battery in no circumstances be left empty long time. Battery immediately connected to the rectifier and is accessed by fload-cherged with UI characteristic to voltage of 2,4 V/cell, after which the rectifier automatically switchover to operating mode of constant maintaining voltage of 2,23 2,25 V/cell. The regime of rapid charging (includes manual and only in the presence of the operator) to 2,65 V/cell can be applied only if the battery is disconnected from the DC system when no consumers connected DC system.

The determined capacity of the battery expressed in Ah is product of the discharge current Idischarge (A) and the discharge time t (h).



5. BATTERY MONITORING AND REVITALIZATION DEVICES

Nowadays, as a result of the great development of the technique and gained positive experiences and knowledge, there are sophisticated devices and complete systems of expertise and revitalization of stationary rechargeable batteries. The following example will show an examination with expertise system. This system is an innovation in the process of testing, developing, manufacturing and servicing the battery pack.

The system provides a fully automated process of examination for all types of batteries. Constructively, the system is portable (approx. 30 kg), with a powerful rectifier (16 kW to 44 kW) and constant discharge currents from 1 A to 400 A.



Fig. 7 System for measuring and monitoring of batteries

- 1. Deep discharge of cells with constant current,
- 2. Continuous diagram measurement and recording
- Internal resistance per cell
- Voltage per cell in different modes
- Cell electrolyte concentration
- 3. Continuous measurement and recording graphs
- Transient resistance of cell interfaces and pole extracts
- Transient resistance of copper conductors-battery

5.1. MEASUREMENT AND BATTERY DATA

Battery: BT2-BAT2-48 Type of cell: 3-PAS-O-246

Electrolyte temperature 20
Manufacturer: Trepca
Number of cells: 23
Rated capacity 165Ah
Empty cell voltage 1.83V

Electrolyte density at 20°C 1.24±0.01 g/sm³ Flow battery voltage 51.29±0.01 V



Fig. 8 Battery subject of examination

In Table1 are given results of measuring data before discharging of battery.

5.2. INTERPRETATION OF RESULTS

Table 1 Results obtained of measuring of electrolyte density, voltage and resistance of cells before discharge of battery

Number	Electrolyte	Voltage	Resistance
of cell	density	(V)	$(m\Omega)$
	(g/sm^3)		
1	1.250	2.335	2.474
2	1.249	2.335	1.745
3	1.071	2.209	3.151
4	1.254	2.335	1.847
5	1.235	2.335	1.716
6	1.246	2.332	1.789
7	1.107	2.218	2.844
8	1.240	2.337	1.657
9	1.232	2.328	1.870
10	1.243	2.223	1.581
11	0.855	2.100	1.996
12	1.250	2.338	1.589
13	1.245	2.336	1.645
14	1.246	2.332	1.813
15	1.238	2.334	1.601
16	1.251	2.334	1.635
17	1.263	2.301	1.826
18	1.054	2.205	3.491
19	0.894	2.214	4.577
20	1.266	2.337	1.768
21	1.135	2.222	2.474
22	1.124	2.229	2.804
23	1.259	2.342	1.761

In following figures we can see electrolyte density at the end of discharge Fig. 9 and its dependence of capacity during the measuring for every cell of battery Fig.10.

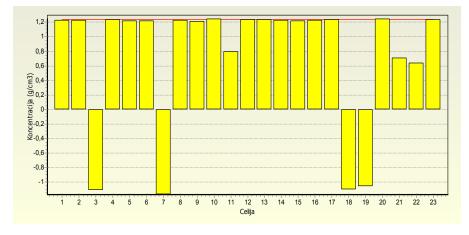


Fig. 9 Electrolyte density for every cell of battery at the end of discharge

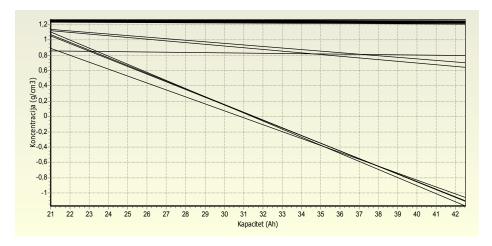


Fig. 10 Capacity for every cell of battery at the end of discharge

On Fig.11 and 12 is given resistance at the end of discharge an its dependence of capacity during the measurement for every cell of the battery.

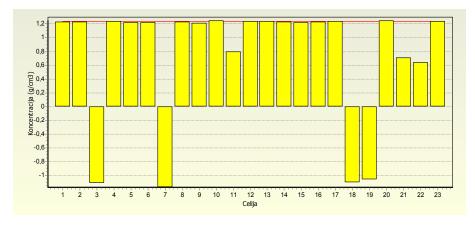


Fig. 11 Electrolyte density for every cell of battery at the end of discharge

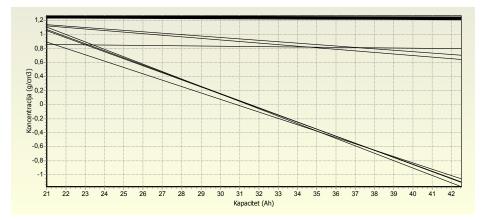


Fig. 12 Capacity for every cell of battery at the end of discharge

In figure 13 is given voltage at the end of discharge an its dependence of capacity during the measurement.

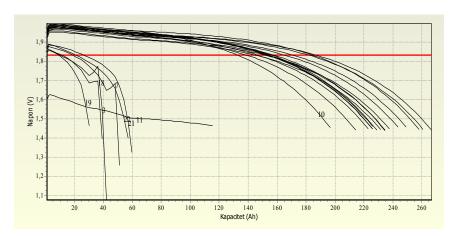


Fig. 13 Voltage for every cell of battery at the end of discharge

Also were measured capacity of each cell for current I=0.1C(%). On the base of the results, diagram is obtained and given to the Fig. 14.

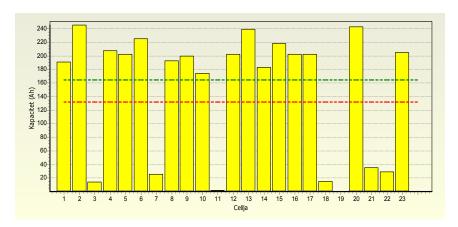


Fig. 14 Capacity of the cells at the end of discharge



5.2.1 ANALYSIS OF THE RESULTS

From previous measuring data and diagrams can be concluded that examinate battery is in a very bad condition. It is necessary to replace it with new or at list replace the cells number 3, 7, 11, 18, 19, 21 and 22.

6. CONCLUSION

Because of its extreme importance, the UPS systems are integral and inevitable part of any power facility. Batteries are the most important element in the system for uninterrupted power supply. Up to them will be provided continuity emergency power and how it will last. It is required at the very beginning, the correct choice and dimensioning of solid-state battery according provided working conditions, purpose and needs of customers that require providing security backup power and thus the required reliability of the system in terms of timely and continuous power consumers, as well as safety equipment and systems in general. In addition to regular weekly audit and measure the voltage, the state of the electrolyte level, once a month is examined and the density of the electrolyte, necessary and regular annual capacitive tests. Capacitive sample test is recommended because revealing of the real situation. When the battery is at the end of life begins to significantly reduce the capacity (beneath 80% of nominal) and then need to be replaced.

This practical measurement shows that monitoring of batteries can increase a realibility of work and is necessary to detect any problem.

REFERENCES

- [1] Griffith,D.C. (1989). *Uninterruptible power supplies*. Marcel Dekker Inc., New York/Basel
- [2] Kusko, A. (1989). *Emergency/standby power systems*. McGraw Hill Book Comp., New York
- [3] Skare, J. Batteries for uninterruptible power supply systems, from https://kupdf.net/download/akumulatori-i-napajanje_5cb6f93ee2b6f5e03b2cc0ea_pdf, accessed on 11-03-2020
- [4] IEC 60896-11:2002. Stationary lead acid batteries General requirements and methods of tests, 2002



SMART GOVERNANCE: THEORETICAL DISCOURSE

Rytis Milkintas

Master of Public Administration, Šiauliai University, Lithuania, 1995rytis@gmail.com

Abstract: The purpose of this paper is to discuss the peculiarities of smart governance as a fundamental component of a smart social system by analyzing them, highlighting their similarities and differences, and refining the dimensions of smart governance. The concepts of smartness and smart governance are relatively new in the scientific field, thus it is appropriate to systematically review the evolution of these concepts. An in-depth overview of the dimensions of the smart governance model, with the help of foreign and Lithuanian authors, will inspire new researchers. The author created concept tables reflect changes in concepts and highlight differences, thus the researcher strives to form a holistic approach. Theoretical analysis of smart governance allowed to distinguish four dimensions of smart governance: empowered citizenship, strategic mobility, horizontal governance and collaborative interaction.

Keywords: Smartness, smart governance, smart social system.

1. INTRODUCTION

In recent years, the public governance model has evolved and changed significantly under the influence of market, globalization, demography, social and technological factors. These changes have brought new challenges, which over time have become innovative factors for the development of the new model of public administration. The change in public administration models from the traditional Max Weber bureaucratic model of public administration to a smart model of public administration has come a long way, not only in terms of historical development, but also in the abundance of changes in public administration. These changes presupposed the continuous improvement of the public sector in order to adapt to rapidly changing market conditions. The introduction of a smart public governance model in the public sector has led to the improvement of public and administrative capacity. The introduction of the principles of the new model in the public sector has highlighted the importance of the efficiency criterion. Innovative methods of problem solving, efficiency and learning have been introduced to improve the efficiency of public administration. Particular attention is paid to adopting good practice in applying a smart public governance model abroad. The implementation of technological and computer innovations in the public sector is becoming an integral part of the public management model. The implementation of these technological innovations has received quite a lot of contradictory assessments, but various information platforms and data systems are becoming an integral part of the public sector while governmental organisations communicating with citizens.



2. THE CONCEPT OF SMARTNESS, SMART GOVERNANCE

When analyzing the issues of smart strategic management, it is expedient to analyze the content of the concept of smartness by looking at it through different approaches highlighted by scientists. Looking at the views of different scientists on the concept of smartness presented in the table (look at the 1 table), it becomes clear that different authors emphasize other aspects of this concept that form a coherent overall field of the phenomenon of smartness.

Table 1 Theoretical definitions of smartness

Concept	Source
"Smartness is the ability to make the best use of local and external resources	Jucevičius
to achieve our goals."	(2014)
"Smartness is a quality that is first and foremost inherent for human, social	Jucevičienė,
systems, and in the age of high technology, also inherent for tangible objects	Jucevičius
and digital systems, in the most general sense, their ability to adapt quickly to	(2014)
the environment."	
"Smartness is a quality that is first and foremost inherent for individual, but	Sinkienė,
has recently been widely attributed to almost all life phenomena."	Grumadaitė
	(2014)
"Smartness is a changing trait that arises from the diversity of many different	Batty (2013)
perceived actors operating in a given context."	
"Smartness is a certain quality or ability of a person or a social system."	Buškevičiūtė
	(2014)
"Smartness - emphasizing a person or a social system is not an absolute gift	Barab,
and is expressed together with the environment or in certain activities."	Plucker
	(2002)

Most authors present the concept of smartness by focusing on the smartness of a person as a personality (Jucevičienė, Jucevičius (2014); Sinkienė, Grumadaitė (2014); Buškevičiūtė (2014); Barab, Plucker (2002)). In other words, the person becomes an axial component in the concept of smartness. It can be stated that scientists, whose view presupposes the role of a smart personality, emphasize that only a smart personality, a smart employee, can create a system of public governance based on a smart governance model that becomes the basis for building a welfare state. However, in their presented concept of smartness, scientists Sinkienė and Grumadaitė (2014) emphasize not only the fundamental origin of the concept, which is related to person, but also raise the paradigm by emphasizing the universality of this concept, i.e. these days the concept of smartness has almost lost its definition and can be applied to "almost all life phenomena." Jucevičius (2014) highlights another unique approach to smartness compared to the concept presented by other authors, stating that smartness manifests itself in ability to use inner and external resources to achieve its objectives". Jucevičienė and Jucevičius (2014) provide the broadest holistic approach to the concept of

smart person (personality) is emphasized, the importance of quality is emphasized both in social systems and in the dimension of technology implementation and improvement. However, the ability of people, social and technological systems to adapt to the changing environmental conditions becomes an essential aspect.

Table 2 theoretical definitions of smart governance

Concept	Source
Smart governance includes the promotion of smart city initiatives, the approval	Nam,
of smart city development plans. Actualizing the development of higher	Pardo
education centers in the city.	(2011)
Smart governance is perceived as a new form of e-government that uses sophisticated information technology to integrate information, processes, institutions and infrastructure to better serving citizens and society.	Gil-Garcia (2012)
Smart management is understood as smart city management.	Batty (2012)
Smart governance is a universally accepted governance model that actualizes the use of information technology to empower citizens by involving them in public governance.	Hollands (2008)
Smart public governance links open and proactive governance structures that involve as many actors as possible (NGOs, residents, business organizations, other public sector institutions), exploiting the city's social, ecological and economic potential, thus avoiding negative externalities and historical circumstances.	Kourtin, Nijkamp (2012)
Smart public governance is a governance model characterized by concerned persons participation and networking, where timely and comprehensive information is used to make informed rational decisions, select implementation structures and processes, technologies and tools, and mobilize and strengthen capacity and resources to create sustainable public value.	Gaulė (2014)
Smart management combines the application of communication and information	Walravens
technologies in data collection and information processes and decision-making.	(2012)

The concept of the smart governance model is treated differently by different scientists, each presenting some unique aspects of the concept (look at 2 table). Batty (2012), Nam, Pardo (2011) highlight the concept of smart governance, which is equated with the concept of smart city management. The juxtaposition of smart governance and smart city by these authors reflects the close links between the smart model of public governance as a model of state governance and the smart city governance.

Most authors emphasize the dimension of smart public governance which is treated as the implementation and modernization of technologies. Gil-Garcia (2012), Hollands (2008), Gaule (2014), Walravens (2012) emphasize that smart public management "combines the application of information technology in data collection and information processes and decision-making". The authors argue that this is a new form of e-government that uses sophisticated information technology to help link information, infrastructure, and other public sector components into a coherent and unified system that creates added value in a public



interest context. Nam, Pardo (2011) presents a unique approach to smart governance, which distinguishes their concept by emphasizing another component of this form of governance - "actualizing the development of higher education centers in the city".

The concept of smart public governance is most accurately defined by Gaulé (2014), distinguishing the components that are relevant to the emerging form of governance. According to Gaule (2014), "Smart public governance is a governance model characterized by stakeholder participation and networking, when rational decisions are made on the basis of timely and complex information, their implementation structures and processes, technologies and tools are selected, concentrated and strengthened capacities and resources to build sustainable public value." Gaule's concept of smart public governance emphasizes the importance of networking, emphasizing mutual cooperation, cooperation between public sector bodies and institutions in terms of information exchange, and aiming to make decisions as optimal as possible in terms of time and financial costs. It should be emphasized that the resolution of a significant number of problems rarely falls within the remit of a single institution, and that decision-making requires governance models or approaches that enable inter-institutional cooperation at different levels of governance, involving more stakeholders. The concept of Gaul also identifies the creation of sustainable public value, which is often perceived as the systematic, harmonious development of various areas of public administration, which seeks to respond to the interests of civil society. The author complements the concepts of other authors by introducing a new term for networking, emphasizing the importance of strengthening human resource capacity.

2.1 DIMENSIONS OF SMART PUBLIC GOVERNANCE

As stated by Christensen, Lagreid (2007); Pollitt, Bouckaert (2011), "The declining effectiveness of traditional governance models and methods encourages new initiatives to address the challenges of uncertainty and complexity." The inapplicability of previous public administration models to new, changing market conditions encourages the development of a public governance system a new paradigm of smart governance is emerging. According to Jucevičienė, Jucevičius (2014), it is stated that "A smart social system is an interaction system in which people receive information and other necessary resources to achieve the goals of the system by seeing critical aspects of their environment and making timely decisions." The essential principle of the social system is the interaction of public sector institutions and cooperation with citizens in assessing potential threats and making appropriate, timely decisions that help to ensure the most optimal solution to the problem and thus guarantee the implementation of the public interest.

The model of smart public governance is a multidimensional new, emerging form of organization of public sector activities. The qualities of smartness in a system of public administration must be integrated into the structures and processes of the system and expressed through a common ethos and culture. The presented scheme of the Smart Public Governance Model highlights 4 basic dimensions: empowered citizenship, strategic agility, horizontal management, collaborative interaction (see Figure 1).



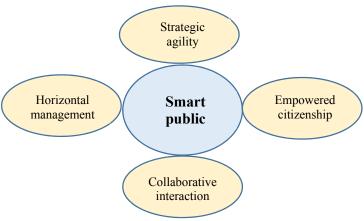


Fig. 1 Smart public governance dimensions adopted from Gaulė (2014)

Strategic agility. According to Gaule (2014), "Government must act proactively to address complex issues in a rapidly changing socio-economic environment." According to Doz, Kosonen (2008), the strategic agility dimension is perceived as a measure of government's ability to anticipate increasingly complex policy challenges and flexibly, respond to them in a way that avoids crises and carries out structural and strategic change in an orderly and timely manner. According to the concept presented by Kosonen, the ability of public authorities to anticipate and respond in a timely manner to emerging problems is essential to the crisis dimension, which would be much more difficult to manage and would require more financial resources. According to the OECD (2010), strategic mobility is seen as a way of working when decisive action is taken as consistently as possible, taking into account environmental conditions and priorities. The feasibility of this dimension requires procedural and institutional frameworks to enable high-quality decisions to be taken and their effective implementation to create public added value.

Another component of strategic agility, which develops from the ability of public sector institutions to respond sensitively and insightfully to certain emerging issues and ongoing changes, is identified as the efficient allocation of resources. The strategic sensitivity and insight of public sector institutions reveals the ability of institutions to formulate strategic issues when based on high quality analysis and expertise. Taking into account future perspectives and needs, in cooperation with internal and external stakeholders (internal departments of the institution, other institutions, the business sector and one of the most important groups - the population) and thus analyzing the environment and identifying trends, forecasting strategies are developed, meets today's challenges. The importance of systemic coordination is revealed in solving particularly complex problems of a cross-functional, cross-sectoral nature. The efficient allocation of state financial resources can be achieved only by systematically linking financial resources with the goals set at the national policy level, long-term strategies at the national and local level, and the strategic planning documents at the European Union level. Mobility of civil servants in the civil service is also becoming an integral part of the strategic mobility dimension.

Horizontal management. According to Gaulė (2014), "Problem solving requires horizontally based management processes and tools to achieve integrated results and impacts." Horizontal policy-making helps to integrate resource allocation and policy-making.

The integration of these two factors encourages the systematic use of evidence in shaping successful innovation-based policies. Horizontal management combines communication management focused on the management of providers' networks, the achievement of the goals of organized activities, and the goals set by citizens. In this way, the legitimacy of public sector institutions is ensured and the trust of the population grows.

According to Bevir (2011), horizontal work (between different public authorities, such as ministries, their departments, municipal administrations and their subordinate bodies), based on cooperation and cleverly coordinated, is an integral part of policy-making and is particularly important for realizing inclusive government approach". For public sector bodies, the active involvement and commitment of the executive and political leaders is a prerequisite for horizontal coordination. Analyzing Bevir's approach and based on Christensen, Lagreid (2008) suggests that executive and political leaders use working groups as tools to foster collaboration between public sector organizations. In this way, public sector employees communicate, carry out official cooperation with employees of other institutions, communities and residents who receive public services. Only after the development of a systematic and effective horizontal management system based on effective cooperation and effective communication, an integrated provision of public services to the population can be established, which is based on the interconnection of services and their mutual compatibility. The institution of government in the system of public administration of a state is perceived as a political space in which, taking into account the programs and operating conditions of each government, political goals are refined. The activities carried out by a government institution ensure the ability to identify in a timely manner certain conflicts, gaps that arise in the system of public administration over time. According to the OECD (2013), it can be argued that public policy stems from actions taken to address a particular problem when "a solution is chosen from the presented alternatives based on the principle of pragmatism" (Bevir, 2011). This ensures that the most appropriate tools are used to achieve the required results and impact. According to Tollefson, Gale (2012), a public governance system must adapt to everchanging environmental conditions. A public management system can ensure effective management by analyzing information received from the environment. The system of public administration institutions uses systematic monitoring and evaluation procedures, thus seeking to integrate information into the policy-making process. Monitoring and evaluation procedures collect reliable data on activities and perform comparative analysis.

Competent employees are a particularly important part of smart public management. Effective implementation of the formed policy is possible only with competent employees, applying innovative management methods, choosing effective measures. According to Farrell, Goodman (2013), one of the key factors in ensuring the intellectual capacity of smart authorities is the competencies of employees. Public administrations at various levels, in order to ensure that civil servants have the highest possible professional qualifications, encourage employees to regularly improve their qualifications by combining basic and specific sectoral, strategic and risk management competencies.

According to Hawkesworth and Klepsvik (2013), budget funding structures and instruments must ensure budgetary mobility when addressing complex and sometimes complex crosscutting issues in order to bring about short- or long-term policy changes that underpin new policy initiatives, growing citizens needs. Risk management is a very important part of smart



public management. This process includes timely risk identification, assessment, effective risk management.

Collaborative interaction. Institutional activities in the field of public administration, according to Tollefson, Gale, Zito (2012), "show the interactions of structures and processes" within the management system itself, thus embodying "management values and ideas". These authors emphasize that the nature of the institution determines the ability of the state political system to formulate policy effectively and smoothly. Tollefson, Gale, Zito (2012) actualize not only the ability of institutions to make certain decisions, but also the ability of public sector institutions to involve the social partners in the implementation of certain decisions made by political forces. The ability to involve a wide range of social partners, which can be both public sector institutions and non-governmental sector organizations (NGOs), business organizations, and, of course, citizens, demonstrates the public sector's ability to excel by embracing and applying a smart public governance model. Tollefson, Gale, Zito (2012) also very aptly describe the importance of networking: "policy-making in the context of networking allows the state to be perceived more as a network of networks than a system of formal hierarchy". It is important to realize that even in the public sector activities of countries with different levels of socio-economic development, social interactions are based on the principles of close co-operation. According to Christensen, Lagreid (2007, 2008), "comprehensive", "combined" initiatives taken by the government are equated with the government's attempts to strengthen cooperation between them, to seek and find innovative ways of coordination. The third dimension of smart public governance, called collaboration interaction, is the basis for a vertical and horizontal coordination mechanism between public authorities, which helps to ensure a more efficient use of financial and other resources. Collaborative interaction promotes synergy processes between public administrations and their partners, creating an environment for innovation.

Sorensen, Torfing (2012) argue that "collaboration rather than competition is a key source of innovative solutions". There are constant discussions between public sector organizations and their social partners, negotiations during which certain information is exchanged, and learning from the work of other institutions and the experience of their employees is initiated. Collaborative interaction creates joint responsibility for the decisions made, which will affect all project implementation partners and target groups to which the decision is directed. Cooperation between different levels of government with non-governmental organizations (NGOs) and business bodies presupposes a mutual need for cooperation, regardless of whether the public authorities act as providers or consumers of certain goods or public services or simply become stakeholders.

According to Edelenbos, Van Buuren, Klijn (2013), the formulation and implementation of smart public policies in a network of relations between the public sector, society and the business sector becomes a close mutual partnership based on intersectoral and interinstitutional cooperation. The formed partnership makes it easier to make decisions that meet the needs of the stakeholders - sections of society.

Networking is an emerging, new, innovative form of collaborative activity. It is a kind of coordination, based on new forms and expressions of cooperation, focused more on unification and coherence than on leadership, the ability to persuade to act in the common interest, or on the application of control mechanisms, not only to perform functions but also

to solve problems. According to the OECD (2011), effective networking is applied at different levels of government and is based on public administrations operating outside their usual field of activity, thus enabling individuals, their groups, individual organizations to solve problems through cooperation and common goals. According to Bučinskas, Giedraitytė, Raipa (2013), "due to the networked form of governance, the process of public administration becomes more decentralized, pluralistic, it gives the public sector the opportunity to cooperate more actively with non-state actors. Networks are becoming an important alternative to hierarchy and governance mechanisms." These authors highlight one of the most important changes for the public sector: the decentralization process, where central authorities give municipalities and elderships more autonomy to act within their competences and territories. The decentralization process enables local authorities to take decisions by gathering all the most relevant information on local issues. The decentralization process is favorable in the sense that this method of management gives public sector institutions more autonomy, encourages the search for partners of social and business organizations who can join in the implementation of new projects.

Empowered citizenship. The fourth dimension of smart public governance is based on the relationship between public sector institutions and society. Citizens' participation in the indirect decision-making process of the public sector through proposals is referred to as inclusion. Involvement of the public is perceived as one of the main opportunities for a public sector system based on smart public management to mobilize human resources, use their experience (competencies) and thus to ensure efficient delivery of public services to the population and systematic, coherent and effective. According to Tollefson, Zito, Gale (2012), there are fundamental components of public administration in society, and smart public management itself is influenced by the community activities of society. These authors also emphasize that with the modernization of state governance, the relations between society and the state become more complex, the boundaries of certainty disappear, and informal and formal interrelationships gain flexibility.

Active participation of citizens in the system of smart public administration is declared as a motivating factor that improves public value and innovation in the system of public administration. Public administration institutions can't solve all the problems they face, and the relevance of citizen participation to public policy goals (such as museum education, preservation and upgrading of cultural heritage) is growing significantly. Public sector bodies quite often use citizens when some form of public consultation is needed and there is a lack of dissemination of information. In this way, citizenship based on the principles of cooperation is promoted. With the development of information technology, new ways emerge and conditions are created for the participation of citizens in certain management decisions, the results of which affect a smaller or larger part of the society. Citizens can also participate as evaluators by providing feedback and assessments to public administrations about the public services provided by the institutions.

According to Smith (2004), "the goal of empowered citizenship is not only to promote community spirit through participation in the protection of the public interest, but also local self-government, to mobilize resources generated by the population, ideas in a smart public administration system, to strengthen legitimacy". According to Willke (2009), empowered citizenship is promoted in this way, whereas in the past, the resident citizen was perceived



only as a passive holder of certain legal rights. Citizens' co-creation of public services is seen as a true expression of the empowerment of the public service delivery process. Citizens' concerns and observations about the quality and accessibility of public services, expressed to public sector institutions, allow the latter to improve the provision of public services to the population so that they respond as much as possible to the needs of the population. In summary, it can be said that the manifestation of each of these dimensions in the model of smart public administration applied by the state is especially important. Each of the four dimensions may have certain characteristics depending on the level of development of the country's public administration system.

3. CONCLUSION

Smartness is perceived as the use of local and external resources to best achieve set goals. The quality of smartness is characteristic of people and social systems of different nature and coverage. In the age of high technological development, the quality of smartness is often associated with information technology. Smartness is universally perceived as the ability to adapt quickly and smoothly to the conditions of ever-changing environment. Smart public governance is understood as a form of governance that combines open and active governance structures that seek to involve all actors (residents, business organizations, non-governmental organizations, public sector institutions), exploit the city's social, economic and ecological potential and thus avoid negative externalities which affect environment. An integral part of smart public management is the implementation and improvement of information technologies. Information technology integrates information, processes, infrastructure and institutions to provide a higher level of public service to the population. The model of smart public governance consists of four dimensions: strategic agility, empowered citizenship, horizontal management, collaborative interaction.

REFERENCES

- [1] Barab, S. A., Plucker, J. A. (2002). Smart People or Smart Contexts? Cognition, Ability and Talent Development in an Age of Situated Approaches to Knowing and Learning. Educational Psychologist, 37 (3), 165–182.
- [2] Batty, M. (2012). Smart cities of the future. The European physical journal special topics, Special Topics 214, 481-486.
- [3] Bučinskas, A., Giedraitytė, V., Raipa, A. (2013). Innovation in Public Administration: Social Networking. Regional formation and development studies, 2 (10), 46-57.
- [4] Buškevičiūtė, J. (2014). Sumaniojo viešojo valdymo koncepcijos paieškos: skirtingų teorinių prieigų kritinė analizė. Viešoji politika ir administravimas, 13 (3), 359-371.
- [5] Christensen, T., Lagreid, P. (2007). The Whole-of-Government Approach to Public Sector Reform. Public Administration Review, 67 (6), 1059–1066.
- [6] Christensen, T., Lagreid, P. (2008). The Challenge of Coordination in Central Government Organizations: the Norwegian Case. Public Organization Review, 8, 97–116.
- [7] Doz, Y. L., Kosonen, M. (2008). Fast Strategy: How Strategic Agility Will Help You to Stay Ahead of the Game. First Edition. Pearson Education.



- [8] Edelenbos, J., van Buuren, M. W., Klijn, E-H. (2013). Connective Capacities of Network Managers: A comparative study of management styles in eight regional governance networks. Public Management Review: an international journal of research and theory, 15 (1), 131–159.
- [9] Finland: Working Together to Sustain Success (2010). OECD Public Governance Reviews. OECD Publishing.
- [10] Gaulė, E. (2014). Sumanus viešasis valdymas: samprata ir dimensijos. Viešoji politika ir administravimas, 13 (3), 372–385.
- [11] Gil-Garcia, J. R. (2012). Towards a Smart State? Inter-agency Collaboration, Information Integration, and beyond. Information Polity, 17, 269–280.
- [12] Hawkesworth, I., Klepsvik, K. (2013). Budgeting levers, strategic agility and the use of performance budgeting in 2011/12. OECD Journal on Budgeting, 13 (1), 105–140.
- [13] Hawkesworth, I., Klepsvik, K. (2013). Budgeting levers, strategic agility and the use of performance budgeting in 2011/12. OECD Journal on Budgeting, 13 (1), 105–140.
- [14] Hollands, R. G. (2008). Will the Real Smart City Please Stand Up? Intelligent, Progressive or Entrepreneurial? City: Analysis of Urban Trends, Culture, Theory, Policy, Action, 12 (3), 303-322.
- [15] Jucevičienė, P., Jucevičius, R. (2014). What does it mean to be smart? In: Business and management 2014: the 8th international scientific conference, May 15 16, 2014, Vilnius, Lithuania: selected papers, 2, 911–918.
- [16] Jucevičius, R. (2014). Sumaniojo miesto vystymo strateginės dimensijos. Viešoji politika ir administravimas, 13 (3), 427–441.
- [17] Kourtin, K., Nijkamp, P. (2012). Smart Cities in the Innovation Age. Innovation: The European Journal of Social Sciences Research, 25 (2), 93–95.
- [18] Nam, T., Pardo, T. A. (2011). Conceptualizing Smart City with Dimensions of Technology, People, and Institutions. Proceedings of the 12th Annual Digital Government Research Conference, College Park, Maryland, June 12-15. Prieiga internete: https://intaaivn.org/images/cc/Urbanism/background%20documents/dgo_2011_smartcity.pdf.
- [19] Poland: Implementing Strategic-State Capability (2013). OECD Public Governance Reviews. OECD Publishing.
- [20] Pollitt, C., Bouckaert, G. (2011). Public Management Reform: A Comparative Analysis New Public Management, Governance, and the Neo-Weberian State. Oxford University Press.
- [21] Sinkienė, J., Grumadaitė, K. (2014). Sumanaus regiono konceptualusis modelis. Viešoji politika ir administravimas, 13 (3), 414-426.
- [22] Smith, R. F. I., (2004). Focusing on Public Value: Something New and Something Old, Australian Journal of Public Administration, 63 (4), 68–79.
- [23] Sorensen, E., Torfing, J. (2012). Collaborative Innovation in the Public Sector. The Innovation Journal: The Public Sector Innovation Journal, 17 (1), 1-14.
- [24] The SAGE Handbook of Governance (2011). Ed. M. Bevir. SAGE Publications India Pvt Ltd.
- [25] Tollefson, C., Zito, T., Gale, F. (2012). Symposium Overview: Conceptualizing New Governance Arrangements. Public Administration, 90, 3–18.



[26] Walravens, N. (2012). Mobile Business and the Smart City: Developing a Business Model Framework to Include Public Design Parameters for Mobile City Services. Journal of theoretical and applied electronic commerce research, 7 (3), 121-135.

[27] Willke, H., (2009). Smart Governance. Complexity and the Megacity, VS Verlag für Sozialwissenschaften, 365–378.



IMPLEMENTATION OF INTERNAL AUDIT BY TOP MANAGEMENT IN AN INDUSTRIAL ENTERPRISE IN TRANSITION COUNTRIES LIKE THE REPUBLIC OF SERBIA

Jelena Vitomir¹, Milan Radović², Slobodan Popović³

Abstract: Internal audit should contribute to and ensure the safety of top management in all enterprises, especially in industrial enterprises, as they are the carriers of the development of the economy of a country. It is introduced in the regular control flows to ensure the proper functioning of existing management processes, especially risk management.

In addition, internal audit contributes to an increase in the control function and management of the company, that is, management processes that are close to the planned activities of the top management, thus enabling the achievement of the basic goals of the company that the top management of an industrial company brings.

This makes it increasingly possible to exercise functions in any company, and in recent years, in a transition environment, it has been of dominant importance in industrial enterprises. Internal audit reports in the form of recommendations are submitted to top management to optimize the future management of the company.

Keywords: *Internal audit, modeling, enterprice.*

1. THE PROCESS OF INTRODUCING INTERNAL AUDIT IN INDUSTRIAL ENTERPRISES IN THE REPUBLIC OF SERBIA

Top management, if it wants to improve the overall business results, starting with the increase in production, increase in turnover and increase in profits must pay attention to the recommendations of internal audit. From the point of view of the general management of the company [1], [2], [3], [4], [5] it is of great importance to implement the results of the internal audit work, because the implementation of the recommendations they make will enable the elimination of errors and irregularities that exist in the functioning of the company [6], [7], [8], [9], [10].

The results of the internal audit work are categorically stated and must be taken into account by top management if the functioning of the company is to be improved.

Thus, internal audit can become a generator of development of any company [11], [12], [13], [14], [15], because adopting the recommendations of the internal auditor eliminates the risks of doing business in the company. In addition to the general approach of internal audit], it

¹Megatrend University, Maršala Tolbuhina 8, 11000, Beograd, Serbia

²University of East Sarajevo, Economic Faculty of Pale, Alekse Šantića 3, Pale 71240, Bosnia and Herzegovina ³Corresponding author: Slobodan Popović, JKP Gradsko Zelenilo Novi Sad, Temerinski put bb, 21000 Novi Sad, Serbia, E-mail: slobodan.popovic49@gmail.com.



should be emphasized that the opinion and findings of the internal auditor should provide guidance for the future work of top management [16], [17], [18], [19], [20], noting that all management activities they must comply [21], [22], [23], [24] with the law of the country in which the enterprise operates and generates surplus value.

Therefore, it can be pointed out that the management of the company is in the process of constantly looking for ways to better control the work of the company it manages. Most often, business owners are the ones who initiate management to establish control mechanisms that will increase the security and safety of the business.

Internal audit can provide full support to management in their efforts to increase business security as it generally leads to a reduction in the risk to the business of the company.

With precise internal audit, management is in a position to properly direct the functioning of the company, towards the set goals by top management or by the wishes of the business owner. Since controls cannot exist in isolation but form part of its framework, management should allow the internal audit process to be regularly audited, or approach the optimum level of set points by decision makers.

Therefore, in well-run businesses, executives strive to maintain their skills and knowledge and ensure the flow of information, and management strives to support them in doing so.

2. RESPECT FOR TOP MANAGEMENT RISK AND INTERNAL AUDIT

In order for a company to meet the challenges and make its profit, it is necessary to adopt the concept of adequate management, as a systematic management approach that will lead to the reduction of all possible risks.

Internal audit can play an important role in this process. In the process of realization of set strategies and making individual business-financial decisions, the management of the company must apply systematic and continuous management control of business-financial processes.

In order for business decisions to be implemented optimally, it is necessary to apply in the management activities the planning, organization, control and internal audit of the actions taken in order to be closer to the optimal management, that is, to manage the industrial enterprises, which will reduce the risks to a minimum.

In addition, all environmental risks affect the market, especially the money and capital markets.

This market is extremely important for the economy, and the extent to which it will be developed and efficient depends to a large extent on:

- amount of accumulated savings and propensity to save;
- development and efficiency of the banking sector, because the more developed it is able to raise more funds, and the more efficient it is able to place better quality;
- the impact of tax policy (via tax rate) on savings;
- the development and spread of long-term securities;



- the development and spread of long-term securities exchanges, the condition that they invest long-term funds without being able to re-enter them quickly and easily on the stock market, is such as few investors would be prepared to accept;
- the efficiency of the money market, because the more efficient it is, the easier it is to obtain the liquid funds needed for current needs;
- political, economic and monetary stability, because without them the risks (non-commercial due to political instability, commercial
- due to economic instability and inflationary due to monetary instability) increase sharply, which, due to the natural aversion of the owner, discourages capital holders from placing it;
- Development and transparency of the market environment and the shareholder culture in general.

3. RISK DECISION-MAKING FLOW IN AN INDUSTRIAL-TYPE ENTERPRISE

Authors provide a possible figure 1 that relates to the flow of the basic decision-making stages that are conditioned by the appreciation of the risks identified by the firm's internal auditors

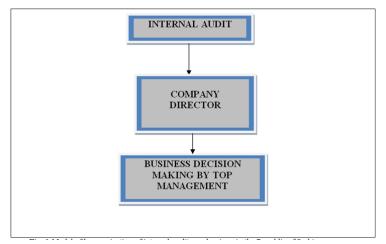


Fig. 1 Model of harmonization of internal audit mechanisms in the Republic of Serbia

4. STARTING THE FINANCIAL AND OTHER POSITIONS OF INDUSTRIAL ENTERPRISE IN THE REPUBLIC OF SERBIA

The initiative to move the assessment of the financial and other positions of an industrial enterprise may come from the enterprise itself. Most often it is a request from management, but it can also be initiated by the business owner, the general meeting of shareholders the state body.

In addition, an initiative to initiate an enterprise financial assessment may be initiated by an internal audit, but this initiative must be supported by the reasons why the internal audit proposes a regular or extraordinary re-evaluation of the industrial enterprise financial analysis.



The state authority may request the submission of a new inventory and valuation of the assets of the enterprise.

The basis for initiating the submission of privatization documentation to the Agency is the entry into force on May 28, 2015, of the new Law on Changes and Amendments to the Law on Privatization ("Official Gazette of the RS" No. 46/15). Referring to the aforementioned Law, the Agency has given a deadline of 30 days from the day of its receipt, for the public sector legal entities to submit to the Agency a new inventory and assessment as of 31.12.2014. The required documents related to new inventories and property valuations must also be prepared in accordance with accounting and International Accounting Standards.

A public authority may require an industrial enterprise to submit new inventories and an estimate of the fair market value of all assets, liabilities and capital on a specified day when required. In addition, the same authority may request that information such as:

- basic company information,
- information on the state of assets and liabilities,
- analysis of business operations to date,
- status documentation,
- property documentation,
- the financial statements for the last three years, together with the auditor's report; and
- the data used to estimate the fair market value of the equity to be used in the equity sale process.

5. PRESENTATION OF REQUIRED SIZES AT THE REQUEST OF INTERNAL AUDIT OR GOVERNMENT BODIES IN THE COMPANY

Internal audit and state authorities may require the company to do the following documentation based on the synthetic indicators provided in the company's final accounts. For example, the authors list the following possible required values in a company (Table 1-4).

Table 1. Overview of short-term financial equilibrium over the last 4 years.

LIOUIDITY DA CIO	Years of observation					
LIQUIDITY RACIO	1	2	3	4		
LIQUIDITY RACIO AND DEGREE	14,86	90,29	2,40	14,26		
RACIO OF LIQUIDITY II DEGREE	268,38	193,34	164,27	117,04		
LIQUIDITY RACIO III DEGREE	333,8	239,15	221,73	156,98		

Table 2. Summary of financial structure indicators over the last 4 years.

FINANCIAL INDICATORS	Years of observation					
STRUCTURES	1	2	3	4		
EQUITY/FIXED ASSETS	1,87	1,85	1,82	1,40		
CAPITAL/FIXED ASSETS + STOCK	1,51	1,42	1,30	1,04		

Table 3. Summary of profitability indicators over the last 4 years.

RATIO	Years of observation					
INDICATORS	1	2	3	4		
PROFITS/LIABILITIES	0,01	0	0	0		
PROFIT/OPERATING INCOME	0,02	0	0	0		

Table 4. Economic indicators for the last 4 years.

ECONOMIC	Years of observation				
INDICATORS	1	2	3	4	
OPERATING INCOME/EXPENSES	0,99	0,95	0,98	0,88	
TOTAL REVENUE/EXPENSE	1	0,97	0,99	0,91	

6. THE PROCESS OF IMPLEMENTING INTERNAL AUDIT IN A COMPANY REQUIRES COST CONTROL

During the work, the internal audit should supervise the costs of development and use of the introduction of internal audit in the company, i.e. the internal auditor should constantly examine whether the development and use of technologies applied by internal audit is too expensive in relation to the scope of work and benefits implementation process in the enterprise system.

The questions asked by the internal auditor are:

- Are all costs included and has use been considered in making relevant decisions?
- Would a possible delay in implementation cause additional costs, i.e. reduce revenues?



- Does the implementation in the system support business and is it easy to use?
- How quickly will implementation become obsolete?
- Are controls cost effective?
- Are the supplier's invoices clear and sufficiently detailed?
- Is there a control to ensure the accuracy of invoices?
- How much do repairs and maintenance of the company's internal audit implementation system cost?

7. CONCLUSION

In the Republic of Serbia, the importance of making initial decisions by internal audit to initiate certain activities within an industrial enterprise is increasingly emphasized, with the aim of delivering some valid reporting to top management. In addition, at the request of management, certain reporting rules are also adopted. In this paper, the authors have provided my required reporting in an industrial enterprise, on the basis of which the process of assessing the value of the assets of the enterprise is created. There are other ways not covered by the research in this paper by the author.

Internal audit in the Republic of Serbia is yet to substantially fight for structural impact in the industrial enterprises in which it operates. Tables 1-4 give a realistic account of the functioning of the company in the 4 years of operation that resulted from the operation and presentation from the final account during that period. Work can serve and be applicable in many other companies as a benchmark for future management action in terms of improving results, because otherwise companies cannot survive in the market.

The basic conclusion that emerges from the work of the author is that the company management should introduce an internal audit, in order to increase the security of the functioning of the company.

REFERENCES

- [1] Popović, S., Tošković, J., Grublješić, Ž, Đuranović, D. and Petrović, V. (2016), Importance of planning internal audit transition countries observed over public sector of the economy in Serbia, *Annals*, Economy Series, 2/2016.
- [2] Novaković, S., Vukasović, D. (2015). Upravljačko računovodstvo u funkciji povećanja produktivnosti preduzeća u restruktuiranju, *Svarog* No. 1: 172-181
- [3] Vukasović, D. (2011). Konurentnost i globalna liberalizacija kapitala, Svarog, 3: 127-133.
- [4] Vukasović, D., Kovačević, Ž. (2013). Značaj analize angažovanih sredstava preduzeća u restruktuiranju, *Svarog*, 6: 223-230.
- [5] Vukaosović, D, Novaković, S. (2015). Likvidnost kao razvojna komponenta u sezonskim varijacijama finansijskih tokova, *Svarog*, 10: 206-2012.
- [6] Popović S. (2014). *Socio-ekonomski faktori ograničenja razvoja agrara*, Feljton, Novi Sad.
- [7] Popović, S, Majstorović, A, Grublješić, Ž. (2015). Valuation of facilities in use and application of international accounting standards, *Actual problems of economics*, No. 3.



- [8] Bojović, R., Popović, V., Ikanović, J., Živanović, Lj., Rakaščan, N., Popović, S., Ugrenović, V & Simić, D. (2019). Morphological characterization of sweet sorghum genotypes acrossen vironments, *The J. Anim. Plant Sci.* 29(3):2019.
- [9] Popović, S (2015). Implementacija heterogenih rizika u radu interne revizije, *Revizor*, 69/2015, 7-19.
- [10] Popović, S. (2015). Interna revizija kao pokretač finansijske analize u javnim preduzećima RS, *Revizor*, 72/2015, 41-53, 2015.
- [11]. Vukasović, D. (2010). Računovodstvene informacije u službi korporativne decentralizacije, *Svarog*, No. 1: 181-188.
- [12] Vukasović, D. (2016), Uloga računovodstva u kontinuelnom upravljanju finansijskim tokovima u nestabilnim finansijskim uslovima, *Svarog* 13: 151-160.
- [13] Vidicki, Đ., Vrkatić, L., Vukasović, D. (2018), Ekološki i zdravstveni turizam iz perspektive građana Novog Sada, *Svarog*, 16: 160-172.
- [14] Terzić, D., Popović, V., Malić, N, Ikanović, J, Rajičić, V., Popović, S., Lončar, M & Lončarević. V. (2019). Effects of long-term fertilization on yield of siderates andorganic matter content of soil in the process of recultivation. *The J. Anim. Plant Sci.* 29(3):2019.
- [15] Popović, S., Đuranović, D., Laban, B., Ivić, M., Jovin, S., Nastić, S., Grublješić, Ž., Popović, V. (2018), Impact of different light intensity on the production of the plant narcissus 1. and its financial effects, *Economics of Agriculture*, 4: 1359-1370.
- [16] Novaković, S., Bogdan, L., Vukasović, D., Ivić, M., Popović, V., Popović, S. (2018), Internal and external audit as a factor in improving the management of the Agricultural enterprise, *Polioprivredna tehnika*, 4: 8–12.
- [17] Popović S., Ćemalović, M. and Mijić R. (2017), Ecological and economic aspects of hazardous waste management and sustainable development in the Republic of Serbia. *Actual problems of economics*, No. 6(192) 53-59.
- [18] Vukasović, D., Martinov, D. (2018), Analiza finansijskih indikatora troškova nabavke, *Svarog*, 16:151-159.
- [19] Popović, S., Ivić, Lj., Đuranović, D., Mijić, R. and Ivić, M. (2016), The importance of establishing a financial analysis in Serbia. *Annals*, Economy Series, 5/2016, 184-188.
- [20] Popović, S., Novaković, S., Đuranović, D., Mijić, R., Grublješić, Ž., Aničić, J. & Majstorović, A. (2017), Application of international accounting standard-16 in a public company with predominantly agricultural activities, *Economic Research-Ekonomska Istraživanja*, 30: 1, 1850–1864.
- [21] Williams, C. (2010), Principi menadžmenta, Data Status, Beograd.
- [22] Northouse, P. (2008), Liderstvo. Beograd,: Data Status.
- [23] Cantino, V. (2009), Korporativno uptravjanje, merenje performansi i normativna usaglašenost sistema internih kontrola, Beograd, Data Status.
- [24] Damodaran, A. (2007), Korporativne finansije: teorija i praksa, Podgorica, Modus.



TEMPORARY EMPLOYMENT: SITUATION AND POSSIBILITIES

Erika Meškienė¹, Teodoras Tamošiūnas²

Abstract: The paper investigates temporary employment as an effective way of organizing work when companies need new employees due to the need for temporary jobs or the need to substitute existing employees. Temporary employment agencies relieve temporary work users, i.e. business companies, from the complex and costly recruitment and employment procedures and help people looking for work find at least a temporary job. The article examines the theoretical aspects of temporary employment, with a focus on the key benefits of temporary employment, such as flexibility and efficiency in work organization. An analysis of the legal framework for temporary employment in the EU was carried out. Statistics show that temporary employment in the EU and in the case of Lithuania contributes significantly to reducing unemployment. It has been analysed how temporary employment can help higher education institutions collaborate with companies in training professionals.

Keywords: Temporary employment, work organization flexibility, unemployment rate

1. INTRODUCTION

Temporary employment in the European Union (EU) has become particularly active in 2004, after the accession of Eastern European countries to the EU and the liberalization of free movement of labour in EU countries. Been and Beer (2018) noted that in the Netherlands and the United Kingdom, temporary employment agencies have become a widely recognized tool in the labour market, in these countries, after the accession of new Member states, the sector of temporary employment agencies has absorbed a large proportion of EU migrant workers [1].

Temporary employment is particularly relevant for employees seeking greater flexibility in the labour market in order to achieve a better work-life balance (e.g. students, parents with children, elderly people). Also, temporary employment is a way of retaining acquired skills and even gaining new ones. In addition, research by Arrowsmith and Forde (2008) revealed that the rate of unemployment has fallen dramatically with the integration of temporary employment services in the business sector [2]. Vosko (2008) argued that the traditional form of employment worldwide is declining, giving way to the flexible model of work [3].

According to scientific sources, temporary employment is considered to be an atypical form of work organization characterized by flexibility in the integration of employees into the labour market. [4]. However, the scientific concept of work organization flexibility has not been sufficiently developed [5]. The tripartite relationship between a temporary employee, a temporary employment agency and a user of temporary employment has been little

Corresponding author: ² Prof., Teodoras Tamošiūnas, Šiauliai University, Lithuania, teodoras.tamosiunas@gmail.com

¹ PhD student, Erika Meškienė, Šiauliai University, Lithuania



investigated. Many scientific works lack the analysis of future insights on how to improve temporary employment to make it more competitive with traditional forms of employment [6].

The phenomenon of temporary employment is still little widespread in the Republic of Lithuania and has no deep traditions or extensive experience. Therefore, the scientific works of Lithuanian authors lack research on the impact of globalization on employment in the Lithuanian labour market, the impact of emigration and immigration on employment, and the possibilities and organization of temporary employment at the international level.

2. THEORETICAL ASPECTS OF TEMPORARY EMPLOYMENT

According to Grubb, Lee, and Tergeist (2007), there is no universally accepted definition that can unambiguously reflect the concept of temporary employment [7]. Probably the most accurate and simple definition of temporary employment was proposed by Hill, Ferris and Martinson (2003): *Temporary employment* is a tripartite employment relationship between a temporary employment agency, temporary employees and companies for whose favour temporary employees perform certain tasks. Temporary employment satisfies those employees who are looking for bigger flexibility to achieve a better work-life balance, while employers use temporary employment services to adapt more quickly to fluctuations of demand, in this way increasing the flexibility of companies [8].

The main functions of temporary employment are searching for and recruiting employees, coordination of an employee's work accounting, and conclusion of employment contracts. Temporary employment agencies make it easier for temporary employment users to manage the number of employees, they have less financial costs and less time spent searching for and recruiting employees. Economic theory defines temporary employment as a service for the use of external human resources.

Jarulaitis (2008) emphasized that temporary employees often receive higher wages than permanent employees because the company has to perform work urgently, what requires special competencies. However, temporary employees do not have the same rights to wages and other guarantees as permanent employees according to standard employment contracts [9].

In accordance with [4; 10] and other scientific sources, the following key advantages and disadvantages of temporary employment can be defined:

Table 1. Advantages and disadvantages of temporary employment

Advantages	Disadvantages
Temporary employees give the company	Some employers think that temporary
more flexibility in recruiting, according to	employees are not sufficiently
changes in market demand for a product or	motivated and committed to temporary
service;	employment;
Temporary employees may replace	Temporary employees may receive
permanent employees during their holiday or	lower wages than permanent
sick leave;	employees, which can lead to outrage
Temporary employees can provide	among employees and trade unions;



specialized skills to implement specific projects;

- Companies can use temporary employment services as a possibility to recruit an employee for a probationary period;
- Companies save time and financial costs of staff recruitment and reduce administrative work;
- Companies can more easily control the number of employees, replacing a nonefficient employee with another;
- The form of temporary employment is favourable for employees who need flexible working conditions;
- Temporary employment makes it easier for young people to enter the labour market and gain work experience;
- A temporary employee may work for several temporary work companies.

- The service requires additional and enhanced supervision of employees;
- The quality of the work of temporary employees is not guaranteed;
- The motivation of permanent employees is negatively affected;
- Temporary employees are not very loyal to the company providing temporary employment;
- Temporary employees do not feel security and stability, and they have low career prospects;
- A temporary employee does not feel like a full-fledged member of the team, which can lead to reduced labour productivity.

Many authors emphasize that work organization flexibility is a major advantage of temporary employment. Jeffrey et al. (2008) provided the following definition of flexibility: *Flexibility* is essentially a feature of the workplace from both an organizational and employee perspective. From an organizational point of view, the aim of flexibility is to enable the organization to adapt to the rapidly changing demands posed to the organization by both internal and external forces. The aim of workplace flexibility from an employee's point of view is to enhance individuals' ability to accommodate personal, family, professional, and community needs.

Flexibility in labour relations manifests through established laws, by applying the processes of less binding rules and regulations restricting the employment relationship between employees and employers, recruitment and redundancy of employees, and work organization [12]. Some employers in the market are more willing to employ temporary employees because of the ability to change the number of existing employees as needed, while other employers focus on functional flexibility – the ability of employees to perform a variety of tasks [10]. Many authors treat temporary employment as a very useful and flexible form of work organization because of labour shortages and emphasize its exceptional convenience for employers when they do not have to perform a lot of functions related to employee recruitment procedures. Flexibility is often described as a factor determining the operational efficiency of activity and the speed of the company's reaction to changed conditions.

The flexibility of labour market is linked to the liberalization of labour relations and the reduction of the role of the state in the labour market. Employment security is developed through the measures of employment security, by applying the principles of social insurance and social dialogue, through active labour market policy and its measures that help workers adapt to changes in the labour market and are promoting occupational mobility [13].



Summarizing the analysis of scientific sources, it can be stated that the modern processes of temporary employment have the following characteristics in respect of temporary employees:

- 1. Flexible and reliable conditions of work agreements for employees to ensure that they can adapt to the labour market and find work;
- 2. Effective and active labour market policy that facilitates a transitional job search period;
- 3. Modern social security systems providing adequate financial support during job search period and social security during temporary employment.

For employers, temporary employment helps prevent company losses as a result of planned or unexpected changes in human resources potential, improves work productivity, promotes competitiveness, and helps companies respond more effectively and adapt to rapidly changing internal and market conditions.

3. LEGAL REGULATION OF TEMPORARY EMPLOYMENT

The main purpose of the laws and regulations governing temporary employment is to determine the conditions, procedures of temporary employment and to ensure proper protection of the rights of temporary employees. It is important to make sure that the laws and regulations governing temporary employment would ensure the rights and interests of temporary employees, however, at the same time would enable the labour market to benefit from this flexible form of employment that would address unemployment and labour shortage problems and promote economic growth.

Temporary employment services have been available in Lithuania for about 20 years, and primarily foreign-owned companies have used temporary employment services here, for whom this form of employment was common as this service has been available in Western Europe for over 30 years. After evaluating new temporary employment possibilities, Lithuanian capital companies soon started using this service. At the appropriate time, temporary employment agencies were founded to help employers find and recruit temporary employees.

The activities of temporary employment agencies are regulated at the EU level by Directive 2008/104 /EC of 19 November 2008 of the European Parliament and of the Council on employment through temporary employment agencies [14]. The Directive is important for labour force mobility and it aims at reducing unemployment, raising the level of the economy, increasing the competitive advantage of businesses and creating added value for the labour market and gross domestic product.

Temporary employment regulation in Lithuania is a new phenomenon, which has been legally effective only since 1 December 2011 by the Law on Employment through Temporary Employment Agencies of the Republic of Lithuania. This law transposed the provisions of the Directive 2008/104 / EC of 19 November 2008 of the European Parliament and of the Council on employment through temporary employment agencies and was confined to the recommendations of this Directive, without any further restriction. The law on employment through temporary employment agencies defines the characteristics of the employment relationship between temporary employees and a temporary employment agency. In principle, in the law, the same conditions are foreseen for temporary employees as for permanent employees, in terms of working time, rest periods, safety at work and payment.



Temporary employees also have access to all the amenities and facilities in the workplace which are shared by other employees. This law expired on 1 July 2017 with the integration of the provisions of this law into Labour Code of the Republic of Lithuania which came in force on 1 July 2017.

One of the priority areas of the new Lithuanian Labour Code is the development of flexibility in labour relations, the regulation of redundancies, working and rest time, change in the employment relationship, types of employment contracts, and forms of work organization. In addition, the Code seeks to further diversify the forms of the employment relationship and declares adequate social protection for employees.

The main activity of temporary employment agencies is searching for employees and employing them for temporary work. Temporary employment agencies employ employees recruited on a temporary basis according to requirements raised by employers. For this purpose, agencies are constantly updating and developing databases of potential employees and can offer employers the employees ranging from a variety of occupations to high-level professionals. Employment through temporary employment agencies is a flexible way of searching for and employing human resources, enabling an employer to reduce the cost of finding employees and to reduce losses due to a shortage of employees, whilst for job-seekers to find a temporary job.

When employing a temporary employee, s/he concludes an employment contract with a temporary employment agency, which undertakes the functions of an employer. A temporary employee acquires all social guarantees established by the Labour Code of the Republic of Lithuania. In the event of termination or expiry of the employment contract, employees are paid compensation in full. The user of temporary employment remains responsible for ensuring safe and healthy working conditions.

For companies that use temporary agency services the administrative burden of managing staff is reduced: they do not have to deal with recruitment and redundancy procedures, wage and tax accounting, etc. In this way, temporary employees employed by temporary employment agencies can be one of the convenient alternatives for employers to save time and money. Temporary employment services provided by temporary employment agencies are treated as a consequence of the distribution of labour, which promotes temporary employment users to make activities more sustainable and to focus on key areas of activities. The precise legal regulation of temporary employment has promoted to flexibly plan the number of human resources in companies, regulate the employment relationship and, at the same time, reduce the cost of recruitment and redundancy [15].

4. TEMPORARY EMPLOYMENT AS A MEASURE TO REDUCE UNEMPLOYMENT

According to Eurostat data, Table 2 presents the annual average percentages of overall and youth unemployment in the European Union and Lithuania.

Table 2. The unemployment rate in Lithuania and the EU in 2010-2018, %

	2010	2011	2012	2013	2014	2015	2016	2017	2018
EU (overall)	9,7	9,7	10,5	10,9	10,2	9,4	8,6	7,6	6,8
Lithuania (overall)	17,8	15,4	13,4	11,8	10,7	9,1	7,8	7,1	6,2
EU (youth)	21,4	21,8	23,3	23,8	22,2	20,4	18,7	16,7	15,2
Lithuania (youth)	27,2	23,2	19,6	17,1	14,8	12,6	10,5	8,6	7,5

Overall unemployment in the EU increased by 1.2 percent between 2010 and 2013 due to the effects of the global economic crisis, however, it started to decline rapidly since 2014, and in 2018 it accounted for only 6.8 percent of the total EU working age population. The youth unemployment rate in the EU was changing similarly, however, in 2010-2018 it was more than double of the overall EU unemployment rate. The youth unemployment rate is the percentage of the unemployed (the unemployed who are able to start work and are actively seeking work) in the 15-29 age group compared to the total workforce in this age group (excluding pupils and students). In absolute terms, the number of unemployed young people in the EU fell from 5.6 million in 2013 to 4.2 million in 2016.

The total unemployment rate in Lithuania in 2010 was more than twice as much as of the EU, but then declined sharply and in 2018 it was already 0.6 percent smaller than of the EU. The youth unemployment rate in Lithuania is similar: in 2010 it was significantly higher than of the EU youth unemployment rate, but in 2018 it was already twice lower. Comparing the differences between the unemployment rate in 2010 and 2013 in Lithuania and in the EU, it can be concluded that Lithuania has overcome the effects of the economic crisis of 2008-2009 faster in terms of the unemployment rate.

The majority of scientific sources emphasize that temporary employment makes it easier for residents to find work, at least temporarily, and at the same time reduces the overall unemployment rate in the state. According to Hendry (1995), in 1995, more than half of US manufacturing companies provided part of their manufacturing process to temporary employees. Temporary employment involved a wide range of sectors, the main ones being information technology, business process management and manufacturing services [16].

According to Eurostat statistics, between 1999 and 2009, the number of employees temporarily employed by the agencies increased by almost 5.2 million worldwide. The number of temporary employees in the EU also increased over this period of time. Table 3 shows the percentage of temporary employees in the total number of persons employed in the EU and Lithuania.

Table 3. The percentage of temporary employees of the overall employed in 2010-2018

	2010	2011	2012	2013	2014	2015	2016	2017	2018
EU (overall)	13,9	14,1	13,7	13,6	14,0	14,1	14,3	14,3	14,2
Lithuania (overall)	2,4	2,7	2,6	2,7	2,8	2,1	2,0	1,7	1,6
EU (youth)	30,9	31,5	31,2	31,4	32,0	32,3	32,4	32,5	32,1
Lithuania (youth)	4,3	5,7	5,4	4,9	4,9	3,8	4,3	3,9	4,0



Table 3 shows that the percentage of temporary employees out of the total number of employed in 2010-2018 was changing insignificantly both overall in the EU and in respect of EU youth. However, there was a slight increase in both groups. Taking into account the figures in Table 2, which show a decline in the unemployment rate, it can be stated that, in absolute terms, temporary employment in the EU increased quite significantly.

However, in Lithuania there is no such increase: on the contrary, since 2015, the total percentage of temporary employees decreased by almost half of the overall employed. Taking into account the data of Table 2, which show the decrease in the unemployment rate, it can be stated that in absolute terms the decrease in the percentage of temporary employees in the total number of employed persons is not so big. But there is no obvious increase. In addition, the total percentage of temporary employees in Lithuania was 5 times lower than in the EU, and in 2018 it reached almost 9 times.

The percentage of youth temporary employees in the EU makes almost one third of all youth employees and more than double of the total percentage of temporary employees in the EU. Explaining this fact requires a more detailed investigation of the reasons for such a high percentage. However, it can be assumed that young people are often temporarily employed while trying different jobs, in search of their vocation, and on a temporary basis during study or study holiday. In Lithuania, the percentage of youth temporary employees out of the total number of youth employees is about 4 percent, which is about twice the total percentage of temporary employees.

5. TEMPORARY EMPLOYMENT AS A MEASURE FOR TRAINING PROFESSIONALS

The form of temporary employment may apply to student internships [17]. Student internships in the labour market are based on internship program applied in companies hosting trainees. Many companies seek to attract young and skilled professionals but are reluctant to engage in student internships due to the extra workload for staff and the bureaucratic requirements for internship programs. Meanwhile, temporary employment as a measure for student internships can intensify business actors to participate in internship programs and train qualified professionals, while at the same time promoting students to work more responsibly in companies during internships [18]. Alongside the importance of flexible employment relationship, it may be relevant for temporary employment agencies to contribute to the training of professionals. The documents of the Bologna Process for Higher Education show the urgent need for integration of higher education with the labour market and to increase cooperation between science and business. Many higher education institutions strive to increase students' vocational training and facilitate their integration into the labour market, therefore, temporary employment agencies can be an effective intermediary between higher education institutions and companies, by temporarily recruiting students, thus contributing to the quality of student internships and graduate employability.

Legislation of temporary employment and the use of its perspectives at educational institutions can become an important task, aiming to use temporary employment in student internships. Legislation and adaptation of temporary employment as a measure for student internships would help to: 1) use the students more effectively as a major potential of human



resources; 2) develop inter-institutional cooperation between higher education institutions and business companies, introduce a new culture of cooperation, strengthen the professional competencies of students and employees; 3) integrate easier young professionals into the labour market through internships and other forms of study; 4) develop young people's competencies, professionalism and willingness to work; 5) provide additional career opportunities for young people and to ensure transparency of employment [19].

Flexibility in the employment relationship and its impact on employment have become influential concepts in academic and political discourse, especially after the European Commission has involved these concepts into the basis of the European Employment Strategy. However, these concepts have not been sufficiently developed in scientific works due to the ambiguity, heterogeneity of the labour market and the cautious approach to employment flexibility and security in the area of the employment relationship [5].

Possible directions of cooperation between business and science sectors can be based on the following statements describing the current employment situation in the labour market [20]:

1) The employment process in the Lithuanian labour market is largely natural, without a system, using formal selection, virtual means, acquaintances, contacts, etc.; 2) Universities do not care enough about the internships, employment and career development of students; 3) The decreasing number of students has an impact on the increase in the number of unskilled labour market participants and the lack of innovative business ideas; 4) The international mobility of students and teachers is increasing in Lithuania, but there is a lack of the development of student international internships.

The following measures can improve the current employment situation in the labour market [20]: 1) Based on the existing methodology of Lithuanian and foreign specialist selection, to develop a system of employment processes in the Lithuanian labour market; 2) The process of student internships prepared by universities can be improved by increasing the diversity of programs of cooperation between businesses and universities, including temporary employment; 3) The integration of business sector activities into science can make a significant contribution to the training and employment of qualified and skilled professionals; 4) To develop the programs for student and teacher mobility, exchange of experience and international internships, and temporary employment.

6. CONCLUSION

There are many different definitions describing the concept of temporary employment in various aspects. Temporary employment satisfies those employees who, for personal reasons, can work on a temporary basis or find no permanent employment or according to work specificity are accustomed to working on fixed-term contracts. Businesses companies-temporary employment users save time and financial resources by outsourcing the functions of searching and employing the employees, job and salary accounting to a temporary employment agency.

The legislation governing temporary employment determines the conditions and procedures of temporary employment and ensures appropriate protection of the rights of temporary employees. Also, this enables to address the problems of unemployment and shortage of employees and promote economic growth. The activities of temporary employment agencies



in the EU are regulated by the Directive 2008/104 / EC of 19 November 2008 of the European Parliament and of the Council on employment through temporary employment agencies. In Lithuania, the provisions of this Directive are integrated into the Labour Code of the Republic of Lithuania and other legal acts.

Temporary employment is a new phenomenon, which has been applied in Western Europe for about 30 years and in Lithuania for about 20 years. Unemployment in the EU decreased by almost one third between 2010 and 2018, and almost threefold in Lithuania. However, the percentage of temporary employees between 2010 and 2018 of all employed remained almost unchanged. The percentage of youth employees in the EU makes almost one third of all youth employees.

Temporary employment can be an effective measure of enhancing cooperation between higher education and business in the area of professional training. Temporary employment of students during internships or other study processes would enable students to gain more professional experience and find a permanent job and would enable businesses to find necessary professionals and contribute to their training by specializing in the area of company activities.

REFERENCES

- [1] Been, W. M., Beer, P. T. (2018). The regulation of employment conditions in labour migrants in the temporary work agencies sector: the cases of the Netherlands and the UK. *AIAS-HSI Working Paper*, no. 2, p. 1-94.
- [2] Arrowsmith, J., Forde, C. (2008). *Temporary agency work and collective bargaining in the EU*. European foundation for the improvement of living and working conditions.
- [3] Vosko, L. F. (2008). Temporary Work in Transnational Labour Regulation: SER-Centrism and the Risk of Exacerbating Gendered Precariousness. *Social Indicators Research*, vol. 88, p. 131-145.
- [4] Kiser, M. L., (2011). Benefits of temporary jobs. *Halium*, vol. 3, no. 1, p. 17-28.
- [5] Burroni, L. Keune, M. (2011). Flexicurity: A conceptual critique. *European journal of industrial relations*, vol. 17, no. 1, p. 75-91.
- [6] Jen Chen, K., Chong Lai, C., Wei Lai, T. (2019). Business cycle fluctuations with the division of permanent and temporary employment. *Economic inquiry*, vol. 57, no. 4, p. 2082-2109.
- [7] Grubb, D., Lee, J.-K., Tergeist, P. (2007). Addressing Labour Market Duality in Korea. OECD *Social, Employment and Migration Working Papers*, vol. 61, p. 5–83.
- [8] Hill, E. J., Ferris, M., Martinson, V. (2003). Does it matter where you work? A comparison of how three work venues (traditional office, virtual office, and home office) influence aspects of work and personal/family life. *Journal of vocational behavior*, vol. 63, no. 2, p. 220-241.
- [9] Jarulaitis, M. (2008). Nestandartiniai darbo santykiai ir jų reguliavimas. *Jurisprudencija*, vol. 110, no. 8, p. 83–89.
- [10] Boyce, S. A., Ryab, A. M., Imus, A. L., Morgeson, F. P. (2007). Temporary Worker, Permanent Loser? A Model of the Stigmatization of Temporary Workers. *Journal of Management*, vol. 33, no. 1, p. 5-29.



- [11] Jeffrey, H. E., Joseph, G. G., Allen, S., Blanchard, V. L., Matz-Costa, C., Pitt-Catsouphes, M. (2008). Defining and conceptualizing workplace flexibility. *Community, Work & Family*, vol. 11, no. 2, p. 149 163.
- [12] Cirillo, V. (2016). Technology, employment and skills. *Economics of Innovation and New Technology*, vol. 26, no. 8, p. 734–754.
- [13] Blaziene, I., Gruzevskis, B. (2016). *The rise of the dual labour market: fighting precarious employment in the new member states through industrial relations (PRECARIR)*. Research project VS/2014/0534 financed by the European Commission.
- [14] Directive 2008/104/EC of the European Parliament and of the Council of 19 November 2008 on Temporary Agency Work, from https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008L0104&from=LT, accessed on 2020-02-10.
- [15] Cetrulo, A., Cirillo, V., Guarascio, D. (2018). *Weaker jobs, weaker innovation. Exploring the temporary employment product innovation nexus*. ISI Growth project on Innovation-fuelled, Sustainable, Inclusive Growth, Working Paper.
- [16] Hendry, J. (1995). Culture, community and networks: the hidden cost of outsourcing. *European management journal*, vol. 13, no.2, p. 193 200.
- [17] Eichhorst, W. (2015). *Does vocational training help young people find a (good) job?* IZA World of Labor.
- [18] Langenbucher, K. (2015). How demanding are eligibility criteria for unemployment benefits, quantitative indicators for OECD and EU countries. *OECD Social, Employment and Migration Working Papers*, no. 166, p. 3-84.
- [19] Bartkus, E., Raipa, V. Liepė, Ž. (2009). Išorinių išteklių panaudojimas viešojo sektoriaus organizacijose. *Viešoji politika ir administravimas*, vol. 29, p. 62-71.
- [20] Šalčius A., Šarkiūnaitė I. (2011). *Žmogiškųjų išteklių valdymas*. UAB "Ciklonas", Vilnius.



IMPLEMENTATION OF CULTURAL POLICY AT LOCAL LEVEL: THE CASE OF ŠIAULIAI CITY MUNICIPALITY

Rytis Milkintas

Master of Public Administration, Šiauliai University, Lithuania

Abstract: The aim of the article is to present the results of the research carried out at the local level in the city of Šiauliai. The first part of the article introduces the researcher's choice of theoretical approach to conducting the study, which formed the basis of a partially structured interview questionnaire, matrices. Based on the theoretical access chosen by the researcher and the information collected during the interviews with informants, matrices of the following topics were made: The situation of cultural policy in Lithuania; Cooperation; Influence of the legal base on the implementation of cultural policy; Institutional structure of cultural institutions; Resources; Cultural policy goals, objectives, priorities. The second part of the paper presents the results of the informants' attitudes research - presents the results of the systematic analysis of six matrix data.

Keywords: *Culture, cultural policy.*

1. INTRODUCTION

The culture of a country is one of the most important components of a state's identity. Based on DiMaggio's (1983) thoughts on culture and the concept of cultural policy, it can be argued that culture existing in a state reflects the social consensus of that country's citizens, and cultural policy shaped in a country is understood as representing the country's conventional values. Cultural policy in the Republic of Lithuania, like other policy areas, is a component of the public policy formed by the state.

Cultural policy implemented in the state is inseparable from economic, social, political and legal factors. It is important to emphasize that the factors influencing the implementation of cultural policy can be both explicit and implicit. Raipa and Pauliukevičiūtė (2009, p. 102) discuss the influence of the international cultural space on the national culture of the country: "the integration into the space of international organisations, like the EU, creates new challenges in the area of national cultural identity, with the state attempting to position itself as an "open cultural dialogue" and a country that fosters creative expression. "

A state that has national identity and strives to foster cultural distinctiveness attaches particular importance to culture as a source of historical experience and the possibility of citizens' self-realization, and to one of the essential aspects of culture, cultural policy as part of public policy. Raipa, Pauliukevičiūtė (2009, p.100) states: "Cultural policy, although classified as a public policy area, is controversial, as it is not easy to define culture itself, it becomes more difficult to formulate its policy, choose appropriate and most appropriate forms of administration, see the most important problems and set priority objectives." This multifacetedness is manifested through the implementation of cultural policy, which is perceived as a result of public administration. The cultural phenomenon is multifaceted and



its implementation in the formulation and implementation of cultural policy is quite complex. Individuals representing different interest groups have different perceptions of culture. There is often a conflict between them in order to reconcile approaches. It is important that certain aspects of the country's culture are not forgotten or pushed aside, but that a consensus is reached.

2 THEORETICAL APPROACH TO THE IMPLEMENTATION OF CULTURAL POLICY

Cultural policy is an integral part of public policy. In the formulation of cultural policy, it goes through certain phases in order to be properly evaluated and implemented. It is therefore appropriate to look at cultural policy over the cycle of the public policy process. This cycle reveals the whole essence of politics - it is possible to see visually the path to be taken before a problem becomes part of the political agenda and then part of cultural policy. It is also important to emphasize that a rather long and complicated process takes place to bring the problem into the public space and justify its relevance.

The public policy model consists of six cycle elements. They need to be addressed by the identified problem until it is fully implemented. On the components of the cycle, Dye (1972): "The systemic-functional paradigm of public policy analysis argues that the political process consists of separate parts of the process - stages, and each stage can be studied separately." The essential concept of the topic is the implementation of cultural policy, therefore one component is distinguished from the whole policy cycle - policy implementation. According to Raipa (2002, p. 11), the instruments of policy implementation: "legal framework; resources; goals, priorities, tasks; institutional structure". Each instrument is discussed in more detail below.

Goals, objectives, priorities that clearly indicate the direction are one of the basic instruments for policy implementation. Without clearly defined goals and objectives, no policy at all is possible. Goals and objectives are formed in the initial stage of policy making. They stem from the problems that prevail at the time and only some of them are on the political agenda after a long journey. Of course, the priority for political parties is to put the goals set in their programs on the political agenda, in other words, to bring these goals to the forefront. When the goals and objectives are approved, they become the policy guidelines of state importance, from which the implementation of the policy begins.

Resources are an integral tool for implementing cultural policy. By origin, they are divided into *human* and *financial*. Funding for public sector bodies implementing cultural policies is vital, as without them bodies would not be able to exist. Funding can be twofold: state and municipal budgets. Sources of funding depend on the founder of the institution. The peculiarity of funding for public sector institutions implementing cultural policy is that funding is of two types in terms of funding: planned and project funding. A feature of project funding is that only successfully completed projects ensure funding and business continuity. No institution can carry out its activities without human resources - specialists. Human resources require special attention in terms of their improvement. Only by constantly improving their qualifications can the employees of the institution promote the continuous improvement of the institution, and at the same time be able to adapt flexibly to the constantly changing environmental conditions.



The legal framework is another instrument of policy implementation, which is a basic instrument for organizing the activities of institutions implementing cultural policy. The scope of the legal framework includes not only laws, but also various documents: programs, regulations.

The institutional structure consists of the institutions responsible for the implementation of cultural policy and the institutions that formulate cultural policy and supervise the implementation of cultural policy. There is a strict hierarchy in the institutional structure and cultural institutions are divided into certain categories depending on the field of activity. The network of bodies responsible for implementing cultural policy is designed to meet the cultural needs of the population in a given territorial segment. An important aspect of the independence of institutions is also. Institutions gain autonomy when they carry out their activities in accordance with the objectives, perform certain functions that are focused on the objectives of the state cultural policy.

Vilkočius reacts to the implementation of cultural policy as follows (2004): "The definition of the implementation of cultural policy and the naming of essential provisions are important, because in this way the state government decides: political issues by choosing the methods of cultural management; economic issues in choosing the optimal methods of financing culture; organizational issues by identifying and coordinating the relationship between cultural institutions and users of cultural goods". This concept of cultural policy implementation helps to understand that not only the chosen cultural policy model or a certain common political position is important for policy implementation, but also funding sources, economic level of development, relations between cultural institutions providing cultural services and customers using these services (mentality of "consumers" of culture).

According to Pauliukevičiūtė, Raipa (2014, p. 247), "cultural policy is not formed and implemented in a closed environment, it is influenced by many environmental factors, other policies, it is itself a mechanism, a process, a cause and a consequence of change." Recognizing that the implemented cultural policy is constantly influenced by various environmental factors and other policy areas, it is possible to identify potential problems, threats or challenges that may arise in the implementation of the solution of the formed cultural field. Understandably, the implemented cultural policy also faces many problems arising from the internal institutions of state institutions (public administration units).

According to Blomgren (2012, p.524), "In the case of the implementation of cultural policy, the results of the policy depend directly and indirectly on the system of rules, laws and other applicable norms, therefore the problem of autonomy from other areas arises." The approach of this author is focused on the dependence of the results of the formed cultural policy on many factors that have a significant impact on the implementation of the policy. One of these factors is the rules followed by civil servants in the performance of their direct duties and thus in the implementation of the intended policy. Cultural policy is hampered by implementation problems and problems due to the incompatibility of legislation in other policy areas. Therefore, this author talks about the issue of the autonomy of cultural policy the more independent and less dependent on other areas of policy, the less incompatibility arises both in legal and other aspects.

One of the guarantors of a successful cultural policy is cooperation between NGOs, business and the public sector. As O'Flynn and Wanna (2008, p. 11) stated that, "it is clear that



today's governance structures around the developed world are turning a blind eye to greater collaboration, realizing that their goals cannot be achieved without cooperation with others." If there is close cooperation and exchange of information between sectors, the implementation of cultural policy will also be smooth. The competence of civil servants plays a particularly important role in the implementation of policies in a given area. Civil servants working in public administration institutions of various levels form the tasks and goals of the implementation of the established policy, envisage the most targeted implementation measures. It is also important to emphasize the crucial role of stakeholder involvement in cultural policy. This is equated with the need for culture for the population and makes it easier to choose in market conditions which areas of culture are popular and which, due to rapid globalization and changing cultural and aesthetic needs of society, become unnecessary or necessary only for a narrow circle of cultural users. An integral part of cultural policy is strategic planning, which helps to plan and reallocate resources using a forward-looking approach to policy implementation. According to Raipa (2007), "Strategic planning increases the responsibility of cultural organizations, accelerates their activities in solving key internal and external problems, allows for more flexible and effective change of course of action according to circumstances." Based on Raipa (2007) approach to the importance of strategic planning for the implementation of cultural policy, it can be stated that strategic planning is perceived as a factor that helps the institution to adapt to ever-changing environmental conditions and remain flexible. The positivity of strategic planning helps to plan in a coherent way the resources that will be needed to implement the policy in the future.

2.1 CHOICE OF RESEARCH INSTRUMENT, ANALYSIS OF MATRIX RESULTS

The aim of the research is to analyze the situation of cultural policy implementation in Siauliai City Municipality and state cultural institutions. The method of semi-structured interviews was chosen. As Tidikis (2003, p. 465) states: "Interview is one of the effective methods of qualitative research. The necessary oral information is obtained through a direct targeted interview with the respondent." The interview method, chosen taking into account the multifaceted nature of the cultural phenomenon, helped to understand the overall situation of cultural implementation at the state and local levels. It is understood that information about the implementation of cultural policy, problems and challenges is the most accurate first-hand - the heads of the bodies implementing cultural policy. They face this phenomenon on a daily basis in shaping the activities of their institution. A semi-structured interview is convenient for the researcher and the informant in that the interview using the interview method is quite free and informal. The informant, in his opinion, does not have to insert the views into certain frames, he can review some issues in more detail. 9 heads of Siauliai city cultural institutions took part in the research. The partially structured interview questionnaire consisted of 16 questions. Based on the attitudes of the informants collected during the interviews, 6 matrices were formed by distinguishing categories and subcategories: cultural policy situation in Lithuania; cooperation; the influence of the legislative framework on the implementation of cultural policy; institutional structure of cultural institutions; resources; cultural policy goals, objectives, priorities. The following sections present and discuss the results of the matrix analysis.



2.1.1 CULTURAL POLICY SITUATION IN LITHUANIA

Cultural policy is formed at the state level, therefore it is expedient to analyze its implementation at the local level in the context of state cultural policy. Based on the information provided by the heads of the institutions, two dimensions of Lithuanian cultural policy evaluation were distinguished: *Peculiarities of cultural policy in Lithuania* and *the influence of the European Union on Lithuanian cultural policy*.

According to the informants, the main positive features of cultural policy are as follows: emphasis on the importance of cultural policy in the regions, preservation of national cultural identity, democracy, application of the "outstretched arm" model, legal basis, emphasis on professional importance of the Minister of Culture. The listed features of cultural policy characterize the field of cultural policy in a rather wide range. The emphasis on the principle of democracy, which emphasizes freedom of activity based on accountability, legitimizes the independence of cultural institutions, which manifests itself in the implementation of the Scandinavian model of cultural policy chosen by Lithuania (the "outstretched hand" model). Another positive important aspect is the focus on the preservation of national cultural identity, as only a state that fosters national culture can remain unique in the world. An integral part of a successful cultural policy is the legal framework that ensures the successful operation of state cultural institutions. It is also important to mention that the formation of cultural policy guidelines at the state level depends on the professionalism of the head of the Ministry of Culture of the Republic of Lithuania - the Minister of Culture.

However, there are also negative aspects of cultural policy in Lithuania: there is a lack of a systematic, strategic, consistent approach to cultural policy, it is episodic, legal acts in the field of cultural policy only abstractly define the goals of cultural policy. A strategic, systematic and coherent approach to policy is particularly important, as only in this way can cultural policy be successfully developed and stable. The constant change of cultural policy priorities and the lack of coherence make cultural policy unsustainable. The development and specificity of the legal framework contribute to the success of cultural policy bodies, but when legal instruments lack specificity, a number of problems arise.

The second category of the matrix is named as the influence of the European Union on cultural policy in Lithuania. Membership in the European Union brings many benefits to Lithuanian culture in legal and financial terms. Looking at the influence of the European Union on Lithuanian culture through the prism of legal regulation, the informants emphasized the following advantages: easier transportation of works of art to other countries, promotion of multiculturalism, Union legislation is of a recommendatory nature. The transportation of works of art to other countries was a particularly sensitive issue for the issuance of permits until Lithuania became a member of the European Union. After Lithuania becomes a member, the popularization of Lithuanian culture abroad is smoother and simpler. As the legislation of the European Union is of a recommendatory nature for the member states, it becomes a guide for them in formulating the state cultural policy. Multiculturalism is very important in the sense that communion with other nations and their culture helps to develop international cultural relations. Looking at the influence of the European Union on Lithuanian culture through the prism of financing, the informants singled out the following main



advantages: funding is provided for joint projects of artists from different countries, funding is allocated for various cultural and investment projects. This financial support significantly contributes to the publicity and popularization of Lithuanian culture and the promotion of artists.

2.1.2 COOPERATION

Cooperation is an important component of the implementation of cultural policy at the institutional level, and it is therefore appropriate to review it on the basis of the views expressed by the informants. Based on the information provided by the heads of institutions, two dimensions of the evaluation of Lithuanian cultural policy have been distinguished: *The horizontal level of cooperation and the relationship between policy and administration (in terms of institutional cooperation)*.

The cooperation of a cultural institution can be divided according to the approach presented by the informants into two subcategories: the scope of cooperation and the role of managers in cooperation. The informants emphasized the importance of the institution's cooperation for the successful operation. They emphasized that the institution must cooperate with other institutions in the field of culture not only at the city level, but also at the regional level, as well as at the level of Lithuania. Some informants emphasized the importance of crosssectoral cooperation to promote the institution's activities. The informants also emphasized that the role of the manager in developing the institution's cooperation with other institutions and bodies is particularly important. The relationship between policy and administration (in terms of institutional cooperation) is divided into two subcategories according to the approach provided by the informants: systematic and consistent cooperation at different institutional levels and gaps, inconsistencies. The relationship between politics and administration is important in order to formulate a state cultural policy that is successfully implemented by cultural institutions, meets the capabilities of cultural institutions, and is not merely declarative. In order to achieve a close relationship between the institutions formulating and implementing cultural policy, co-operation must take place, which was emphasized by the informants. Cultural policy-making institutions consult and listen to their needs before issuing new legislation, strategic documents related to the activities of institutions implementing cultural policy. Of course, it is also important to mention that there are gaps in the relationship between policy and administration in terms of institutional cooperation: the relationship is not entirely close, sometimes the cultural policy guidelines are not consulted with the implementing bodies, especially the smaller ones.

2.1.3 INFLUENCE OF THE LEGISLATIVE FRAMEWORK ON THE IMPLEMENTATION OF CULTURAL POLICY

This section examines the importance of the legal framework for the implementation of cultural policy as one of its instruments. The legal framework is divided into three subcategories according to the opinion provided by the informants: favorableness of laws and legal acts for the implemented activities; over-regulation of activities; the need for legislation that integrates the whole cultural system. The first and essential sub-category, which unites the views of informants, is about the legality of legislation for the institution. The positive aspects of the legal framework are the following: the legal framework is constantly updated

and improved, most of the issued legal acts meet the needs of institutions in the performance of their activities. However, in some areas of culture, there is a lack of legislation that meets the needs of today's institutions implementing cultural policies, which would promote and give meaning to patronage. It is also important to mention that as the legal framework gradually grows, it becomes redundant in some areas. As the majority of informants stated that legal regulation in the field of culture is redundant, a subcategory was singled out - over-regulation. Informants said that over-regulation increases bureaucratization, administrative work takes more and more time, and the activities of the institution are complicated. One of the informants aptly noted that in the field of culture in Lithuania there are many legal acts of different levels that regulate the activities of cultural institutions, but there is a lack of one axial document that would unite the abundance of these legal acts into one whole.

2.1.4 INSTITUTIONAL STRUCTURE OF CULTURAL INSTITUTIONS

The institutional structure of the institution is an integral tool for the implementation of cultural policy, so this matrix contains the opinion of the informants, which reveals their point of view. According to the informants' position on the institutional structure of the institution, the following subcategories were formed: purposeful functional distribution; optimality of the organizational structure in the implementation of operational objectives; optimization, structural improvement. Targeted functional distribution is particularly important for the successful implementation of the institution's activities. The optimality of the organizational structure in the implementation of activities, according to the informants, is very important, because the amount of human resources is related not only to the work performed, but also to finances. The more optimal the organizational gear, the less financial resources are needed to retain employees. It is also important to mention that a number of informants stressed that they feel the lack of human resources in the organization: the constantly changing competitive environment, market conditions, the need for new specialists, such as marketing, marketing, public relations. There is also a lack of human resources to implement the institution's operational goals in a high-quality and full-fledged manner. However, it can also be mentioned that some informants are just preparing to reduce the organizational structure by optimizing it in terms of human resources in quantitative terms.

2.1.5 RESOURCES

Resources are one of the most important instruments of cultural policy to ensure its implementation. Resources are divided into financial and human. The matrix presented the informants 'views on resources. According to the informants, subcategories of both types of resources have been identified. Financial resources are divided into the following subcategories: fluency of funding; financing features: planned and project financing; funding gaps; the position of the state in relation to the remuneration system. In terms of the smoothness of funding, the views of the informants differed. Some informants said that the funding process was smooth and the terms were awkward. There was a tendency that the heads of cultural institutions, the founder of which is the Ministry of Culture of the Republic of Lithuania, stated about the irregular financing process. Another important sub-category that emerged

during interviews with informants is the ratio of planned to project funding. The informants stated that the planned funding is allocated for the maintenance of the buildings of the cultural institutions and the salaries of the employees, and all the activities are based on the funds received from the won projects. Project funding, as most informants have argued, does not guarantee activity continuity. Without a project and funding, even though activities are planned, they cannot be implemented. The first funding shortfall due to project funding has already been mentioned, but there is another important shortcoming: the lack of funding. In the absence of funding and in order to successfully achieve the set operational goals, cultural institutions have to look for sponsors. The position of the state with regard to the remuneration of cultural workers is also very important. Although not very significant, the salaries of cultural workers have been raised in the past, which shows that the state cares about cultural workers and their financial well-being. The second category is human resources, which consists of four subcategories identified by the opinions provided by the informants. These subcategories are: focus on professional development; initiative of employees in the aspect of competence development; flexibility of workers to adapt to a changing environment; employee motivation. The first subcategory reveals the institution's focus on staff development. All informants stated that their institutions pay a lot of attention to staff development, because in order to adapt to the constantly changing environment, employees must constantly improve their competencies. Unfortunately, informants often mentioned the lack of funds for professional development. According to the informants, the initiative of employees to improve their qualifications depends on quite a number of aspects: the age of employees, their personal characteristics, and how their qualifications will be reflected in their salaries. Another sub-category concerns the flexibility of workers to adapt to ever-changing environmental conditions. Employee flexibility is determined by many factors: age of employees, education. Depending on these factors, it is easy to see whether the employees of the institution are inclined to adapt to the changing environment. The majority of informants said that the staff of the institution under their management were quite willing to adapt, but some said that the team was of mature age and had difficulty accepting innovations. It is known that the motivation of employees to adapt to the environment, to improve, depends on the motivational measures applied in the institution. Motivation measures are various: financial incentives, internships for employees abroad.

2.1.6 CULTURAL POLICY GOALS, OBJECTIVES, PRIORITIES

The matrix revealing the importance of cultural policy goals, objectives, priorities according to the opinions of the informants is divided into five subcategories. These sub-categories by theme: formation of the cultural needs of the population and their satisfaction; compliance with the main goals, objectives and expectations of the manager of the institution; challenges in implementing the cultural goals (guidelines) formed by the state; acceptability of the goals and objectives formed by the founder; compliance with cultural policy objectives and the capacity of the institution. The subcategory, which reflects the formation of the cultural needs of the population and their satisfaction, reviews the main principles of the activities of cultural institutions. According to the information provided by the informants, the operating principles could be divided into general and related to the specific activities of the institution. General principles: fairness, openness, proportionality, innovation, initiative, freedom of

expression, professionalism. Principles related to the specific activities of the institution: publicity of contemporary art, fostering of the art of the national choir, fostering and popularization of professional art. It can be seen that the principles of activity of cultural institutions are focused on the openness and dissemination of the institution. Another subcategory is the correspondence between the goals of the institution and the expectations of the manager. One of the informants mentioned that his expectations are much higher and that the agency's goals could be met on a much wider scale, but unfortunately this lacks financial resources. It is well known that cultural institutions face a wide range of challenges in their implementation. The informants singled out the following challenges: lack of finances, close cooperation between cultural institutions, lack of clear priorities, not always overlapping approach of cultural institutions and institutions implementing cultural policy at different levels. An important aspect for the institution is the acceptability of the goals formulated by the founder of the institution. The informants stated that the goals formulated by the founder meet their expectations and are acceptable, but some informants said that the goals set by the founders are subjective, excessive due to lack of funds. The surplus of targets is stated in the last subcategory. The excess of objectives is due not only to a lack of funding, but also to a lack of communication between cultural institutions implementing cultural policy and their founders. As one informant mentioned, in order to avoid unreasonable goals, the founders of institutions must listen to the needs and possibilities of cultural institutions. The initiative must rise from the bottom up, then there will be far fewer discrepancies between the goals of the founder and the activities carried out by the institution.

3. CONCLUSION

Lithuania has a well-developed network of state institutions that formulate and supervise the implemented cultural policy. These institutions, in accordance with the policy developed at the state level, in turn shape the implementation of this policy with the help of human resources and inter-institutional relations.

The cultural institutions of Šiauliai City Municipality, implementing the cultural policy, face financial problems, lack of close inter-institutional cooperation, lack of human resources, excessive regulation of activities. Financial problems are related to project funding, which does not ensure business continuity.

In the absence of funding and close cooperation between cultural institutions and institutions shaping cultural policy, in the face of a shortage of cultural professionals and in the face of excessive legal regulation, cultural policy guidelines developed at the state level are only declarative and do not correspond to cultural policy institutions.

RERERENCES

- [1] DiMaggio, P. J., Walter W. P. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48, 147-60.
- [2] Bučinskas, A., Raipa, A., Pauliukevičiūtė, A. (2009). *Strateginis planavimas kultūros politikos įgyvendinimo kontekste*. Klaipėda: Tiltai, 3, 1–15.
- [3] Dye, Th.R. (1972). Understanding Public Policy. New Jersey: Prentice Hall.



- [4] Raipa, A. (2002). Viešoji politika ir viešasis administravimas: raida, struktūra ir sąveika. *Viešoji politika ir administravimas*, 1, 11-20.
- [5] Pauliukevičiūtė, A., Raipa, A. (2014). Cultural Policy Implementation: Theoretical Conceptualization. *Public policy and administration*, 13 (2), 243–257.
- [6] Blomgren, R. (2012). Autonomy or Democratic Cultural Policy: that is the Question. *18 Journal of Cultural policy*, 519-529.
- [7] O'Flynn, J., Wanna, J. (2008). Collaborative governance: a new era of public policy in Australia?
- [8] Raipa A. (2007). Strateginis planavimas viešajame sektoriuje. Viešasis
- [9] Tidikis, R. (2003). *Socialinių mokslų tyrimų metodologija*. Vilnius: Lietuvos teisės universiteto Leidybos centras.



INTERNAL AUDIT AS AN IMPORTANT PROCESS IS RELATED TO DECISION MAKING OF TOP MANAGEMENT IN INDUSTRIAL COMPANIES IN THE REPUBLIC OF SERBIA

Stojanka Radović¹

Abstract: The process of internal audit work should ensure the safety of top management in industrial enterprises, thus enabling a valid business decision by the decision makers, which is of great importance because the mentioned companies are the carriers of the development of the economy of a country.

By doing so, internal audit is introduced into the regular control flows by top management at a small door and enables the proper functioning of existing management processes, which are improved through internal audit work in such a way that risk management is reduced to a very acceptable level.

In addition, internal audit contributes to enhancing job security by developing control functions and managing industrial enterprises. In this way, the management processes are brought to a level close to the planned activities by the management of the industrial enterprises.

Top management receives internal audit recommendations that help achieve work safety and meet the company's core goals, especially regarding the development of the company itself. In addition to the above, financial management that has accepted the findings of internal audit has greater certainty in business operations and in making key business decisions in real time and in conditions in which the very top management of an industrial company operates.

Keywords: *Internal audit, efficiency, enterprice.*

1. INTERNAL AUDIT IN ORDER TO IMPROVE THE WORK OF TOP MANAGEMENT OF THE COMPANY

The work of internal audit enables better realization of basic functions in an industrial company. In recent years, in the conditions of transition processes, the acceptance of the results of internal audit work has been of major importance from the point of view of making basic business decisions by top management in industrial companies. Internal audit reports in the form of recommendations are submitted to top management to optimize the future management of the company.

¹Faculty of Economics in Banja Luka, University of Banja Luka, Majke Jugovića 4, 78000 Banja Luka, Bosnia and Herzegovina, Corresponding author. E-mail: radovic.stojanka77@gmail.com



Top management aims to improve the overall business results [1], [2], [3] in an industrial enterprise, starting with an increase in production, an increase in turnover in the form of an increase in the selling price per unit of product, an increase in the profit rate, etc. For these reasons, it must pay attention to the results of the work of the internal audit, as it may, for the first time, make recommendations that indicate weaknesses in the work of an industrial enterprise [4], [5].

Management of an industrial enterprise requires that top management must continually implement the results of its work, which are encouraged as an internal audit activity, since the implementation of the recommendations it makes will lead to the elimination of bad business decisions and possible errors, irregularities in the operation of certain sectors of the company, which actually exist in the functioning of the company [6], [7], [8], [9], [10], which were noticed and presented to the top management of the industrial enterprise by internal auditors.

The results of the internal audit work are given in the form of recommendations of the internal auditor and must be taken into account by top management if the top management wants to improve the functioning of the company in the short term [11], [12], and thus achieve better business results at domestic and foreign market.

Internal audit can become a generator of industrial enterprise development [13], [14], [15], because the adoption of the results of the internal auditor's work in the short term eliminates a large number of business risks that occur in the continuous operation, which were noticed and presented by internal auditors. top management, noting that they also provide basic solutions to overcome the perceived weaknesses in the past work of the company.

The findings of the internal auditor should provide guidance for the future overcoming of the freedom of work of the company [16], [17], [18], so that the top management has the ability to act quickly and efficiently in order to eliminate the weaknesses in the shortest possible time in accordance with the adopted laws in which industrial the company exists [19], [20].

The management of an enterprise, if it is to achieve rapid effects, must be in the process of constantly searching for ways to improve the business of an industrial enterprise. This is most quickly accomplished by establishing better and more comprehensive control and operation of all parts of the enterprise managed by the decision maker.

Business owners often give the first initiative that management put in place safe control mechanisms, in order to increase the overall security and safety of the business. Internal audit can provide full support to management in their efforts to increase business security as it generally contributes to reducing the risk to the overall business of the company. By forming a precise, comprehensive internal audit, management is in a position to properly direct the functioning of the company.

Thus, the implementation of internal audit can become a factor contributing to the achievement of the set goals by the owners who set those goals to the top management, and these by adopting the recommendations of the internal audit can quickly change the decision making process and achieve better business results in the short term.

Management should ensure that the internal audit process is regularly audited and that internal auditors have continuous training to keep their work close to optimal, that is, they can approach their recommendations with an optimal level of top management reporting security.



That is why in well-run companies, internal auditors have an obligation to take up and obtain titles and certificates by which they seek to maintain their knowledge and ensure the flow of quality information to top management, government bodies, external audit, etc.

2. ESTABLISHMENT OF INTERNAL AUDIT AS A CONTROL MECHANISM AND SUPPORT TO THE REAL MANAGEMENT FUNCTION OF THE COMPANY

Good financial, accounting, technological and other management of medium and large enterprises requires that top management be informed first of all by the factors within the company about the current situation. This is the first phase of reporting, and it requires top management to formulate within-company mechanisms through which they can achieve a satisfactory level of reporting security for top management itself.

In the following stages, depending on the wishes of top management, internal audit should be required to make its recommendations for improving current management. In addition, management may require the internal audit to make proposals to overcome this situation and possibly improve future operations.

The company management is constantly trying to modernize its work. This can be achieved by better, more realistic and timely reporting, primarily generated within the company.

In addition, it should be emphasized that if a greater degree of reporting security is desired, the cost of control by internal audit or other established corporate body's increases. Therefore, management's desire for an adequate degree of financial or other reporting security is in proportion to the costs that are incurred with the required reporting performance.

Reporting can be done for reporting purposes and others such as government agencies, then for the needs of investors, shareholders, banks, insurance companies and other organizations that require a certain degree of security and accuracy of reporting, where internal audit can play a key role in this mode of reporting.

3. THE IMPORTANCE OF GATHERING INFORMATION BY INTERNAL AUDIT AND PROCESSING IT TO MAKE SOUND BUSINESS DECISIONS BY TOP MANAGEMENT

The authors have created a model of information gathering by internal audit, which processes them in the form of making recommendations of internal audit, with the aim of making valid business decisions by blueprint management in medium and large enterprises of industrial type in the republic of Serbia, which is presented in the form of figure 1.

Authors have drawn attention to the three most commonly used sources of business information collection, namely: within the enterprise itself, by external audit and by information obtained from state control, judicial and other bodies.

In addition to the above, the use of the previously done swot analysis is also good, as pointed out by the authors of this paper and as can be seen in the presented table number 1. In addition, the empowerment of the given views was also taken into account by the authors



already published in the works of the authors related to strategic decision making, which may be of great importance to the business of the enterprise.

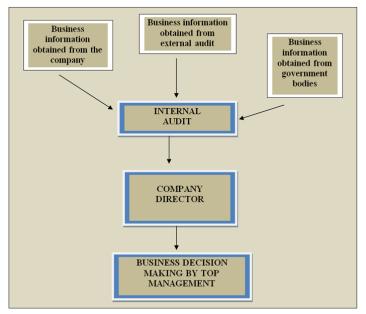


Fig. 1 Model of information gathering by internal audit that processes them with the aim of making valid business decisions by blueprint management in the Republic of Serbia

4. IMPORTANCE OF CONDUCTING SWOT ANALYSIS REGARDING THE IMPLEMENTATION OF INTERNAL AUDIT IN THE COMPANY

The importance of conducting Swot analysais in the process of implementing internal audit in the company is reflected in the fact that before the decision-making process on the implementation of internal audit in the company it is necessary to make a decision to consider multiple aspects of making a purposeful decision on internal audit in the company. The authors give an example of a Swot analysis done in the Table 1.

Table no. 1. Swot analysis that precedes modelling that works for obtaining valid information

ADVANTAGES	DISADVANTAGES
Realistically collect fresh information,	It requires the hiring of professional staff who
collection of useful information,	are often absent from the company,
collecting information on finances,	require periodic engagement of area experts,
Obtaining hidden information useful for	increase the cost of hiring third parties,
making valid top-management business	
decisions in the country,	in specific business needs,



Obtaining hidden information useful for making valid top-management business decisions from abroad.	difficulties regarding the scope of the top- management examination by the internal auditor
OPPORTUNITIES	THREATS
In accordance with the adopted and adopted company policy,	Possibility to get the wrong picture of the system of previous work of the company,
working in accordance with international standards at the required intervals in accordance with accounting and financial, development principles and development models and policies of enterprises,	the inability to achieve a similar comparison to a company that can serve as a comparative in the ongoing analysis of an internal auditor in an internal auditor's report that reports to top management of the company,
strengthening the internal auditor's beliefs about internal audit that are of interest to the internal auditor.	if there is no traceability of conditional enterprise procedures.

Source: author's calculations

5. CONCLUSION

Internal audit can improve the management of most businesses, and therefore one of the most significant types of enterprise, that is, an industrial enterprise. The authors point out that by establishing a continuous internal audit mechanism, it is possible to achieve security through the use of top-management reporting by an internal audit formed within the enterprise and which is essential support for making valid top-management decisions in a very short period of time.

The authors point out that the safety of decision making of top management can rest on the adopted recommendations, more precisely on the audit recommendations, which in the short term increase and improve the overall results of corporate governance, and therefore the results of business.

The main objective of implementing internal audit is to continuously reduce the risk of top management of the company at all levels and in all parts of the company.

Top management must respect the real situation in the industrial enterprise and it implies that it operates with predefined risks to the industrial enterprise.

This substantially increases the security and management of the business in an industrial enterprise. Therefore, internal audit can support the management structure of top management with the primary objective of increasing the efficiency of an industrial enterprise.



REFERENCES

- [1] Wang, D. Manufacturing and agricultural pollution, private mitigation and wage inequality in the presence of pollution externalities. Agric. Econ. Czech, 65: 51-58, 2019.
- [2] Vukasović, D. (2010). Računovodstvene informacije u službi korporativne decentralizacije, *Svarog*, No. 1: 181-188.
- [3] Vukasović, D. (2011). Konurentnost i globalna liberalizacija kapitala, Svarog, 3: 127-133.
- [4] Topcu, M. & Serap Çoban, S. Financial development and firm growth in Turkish manufacturing industry: evidence from heterogeneous panel based non-causality test. Economic Research-Ekonomska Istraživanja, 30(1): 1758-1769, 2017.
- [5] Vukaosović, D, Novaković, S. (2015). Likvidnost kao razvojna komponenta u sezonskim varijacijama finansijskih tokova, *Svarog*, 10: 206-2012.
- [6] Popović S. (2014). Socio-ekonomski faktori ograničenja razvoja agrara, Feljton, Novi Sad.
- [7] Vukasović, D., Kovačević, Ž. (2013). Značaj analize angažovanih sredstava preduzeća u restruktuiranju, *Svarog*, 6: 223-230.
- [8] Bojović, R., Popović, V., Ikanović, J., Živanović, Lj., Rakaščan, N., Popović, S., Ugrenović, V & Simić, D. (2019). Morphological characterization of sweet sorghum genotypes acrossen vironments, *The J. Anim. Plant Sci.* 29(3):2019.
- [9] Popović, S (2015). Implementacija heterogenih rizika u radu interne revizije, *Revizor*, 69/2015, 7-19.
- [10] Popović, S. (2015). Interna revizija kao pokretač finansijske analize u javnim preduzećima RS, *Revizor*, 72/2015, 41-53, 2015.
- [11] Novaković, S., Vukasović, D. (2015). Upravljačko računovodstvo u funkciji povećanja produktivnosti preduzeća u restruktuiranju, *Svarog* No. 1: 172-181.
- [12] Vukasović, D. (2016), Uloga računovodstva u kontinuelnom upravljanju finansijskim tokovima u nestabilnim finansijskim uslovima, *Svarog* 13: 151-160.
- [13] Vidicki, Đ., Vrkatić, L., Vukasović, D. (2018), Ekološki i zdravstveni turizam iz perspektive građana Novog Sada, *Svarog*, 16: 160-172.
- [14] Terzić, D., Popović, V., Malić, N, Ikanović, J, Rajičić, V., Popović, S., Lončar, M & Lončarević. V. (2019). Effects of long-term fertilization on yield of siderates andorganic matter content of soil in the process of recultivation. *The J. Anim. Plant Sci.* 29(3):2019.
- [15] Popović, S., Đuranović, D., Laban, B., Ivić, M., Jovin, S., Nastić, S., Grublješić, Ž., Popović, V. (2018), Impact of different light intensity on the production of the plant narcissus I. and its financial effects, *Economics of Agriculture*, 4: 1359-1370.
- [16] Novaković, S., Bogdan, L., Vukasović, D., Ivić, M., Popović, V., Popović, S. (2018), Internal and external audit as a factor in improving the management of the Agricultural enterprise, *Poljoprivredna tehnika*, 4: 8–12.
- [17] Popović S., Ćemalović, M. and Mijić R. (2017), Ecological and economic aspects of hazardous waste management and sustainable development in the Republic of Serbia. *Actual problems of economics*, No. 6(192) 53-59.



- [18] Popović, S., Tošković, J., Grublješić, Ž, Đuranović, D. and Petrović, V. (2016), Importance of planning internal audit transition countries observed over public sector of the economy in Serbia, *Annals*, Economy Series, 2/2016.
- [19] Vukasović, D., Martinov, D. (2018), Analiza finansijskih indikatora troškova nabavke, *Svarog*, 16:151-159.
- [20] Popović, S., Novaković, S., Đuranović, D., Mijić, R., Grublješić, Ž., Aničić, J. & Majstorović, A. (2017), Application of international accounting standard-16 in a public company with predominantly agricultural activities, *Economic Research-Ekonomska Istraživanja*, 30: 1, 1850–1864.



THE THEORETICAL ASPECTS OF THE COOPERATION OF SMALL AND MEDIUM-SIZED BUSINESS ENTERPRISES

Gvidas Petružis¹, Teodoras Tamošiūnas²

Abstract: The paper examines the cooperation of small and medium-sized business enterprises. It emerged in business at the end of the 19th century when most European countries legalized a cooperative union, and soon the US and many other business enterprises followed the benefits of cooperation. Three essential forms of business cooperation have been analysed, and much attention has been paid to the contemporary relevance of the resource-based theory as well as the theory of cooperation and competition developed by M. Deutsch and other authors. The norms and advantages of cooperation have been highlighted as well as theoretical conclusions of many scientific sources have been presented.

Keywords: cooperation, small and medium-sized business, the theory of cooperation and competition, the resource-based theory

1. INTRODUCTION

The relevance of the research. Small and medium-sized business enterprises (hereinafter referred to as SMEs) are the main driving force of the national economy, affecting the vitality and competitiveness of the national economy. Due to the dominance of SMEs around the world, the research on SME cooperation is undoubtedly one of the most relevant scientific issues.

One of the major challenges facing European Union countries is to strengthen the competencies of SMEs and to promote entrepreneurship. European Commission in the 2018/2019 report on European SMEs highlights the need to promote innovation, increase the competencies of employees, provide access to finance, and promote cooperation. The report notes that 41 percent of SMEs are ready to cooperate with other enterprises, and cooperation with large enterprises is highlighted as one of the most important areas of cooperation [1].

Because of their small organizational structure, SMEs tend to lack the *strategic resources* (innovative technologies, well-developed marketing, high production, and design capabilities) enabling them to develop and maintain their long-term competitiveness. Cooperation among enterprises enables to adapt the resources of other enterprises and develop, together with other enterprises, the functional abilities that help several enterprises at the same time adapt to rapidly changing customer needs in a dynamic environment and promoting economic development [2]. It is also important that cooperation between enterprises creates trust, links of competencies, and enterprises' reputation [3].

Corresponding author: ² Prof., Teodoras Tamošiūnas, Šiauliai University, Lithuania, teodoras.tamosiunas@gmail.com

¹ PhD student, Gvidas Petružis, Šiauliai University, Lithuania

The problem of the research. Having analysed the scientific literature, it is possible to state that most research is focused on large enterprises. These enterprises, with their large internal resources, can invest in internal process management, i.e. be able to identify, manage and make strategic decisions. Meanwhile, the management of internal processes in SMEs is often fragmented and strategic management methods are not applied [4]. The scientific literature has focused more on cooperation among large enterprises, while the field of cooperation among SMEs remains poorly investigated. Some authors use the same theories to both large and small enterprises, however, this is the wrong approach because it does not take into consideration the specificity of SMEs. There is no holistic theory of cooperation among enterprises. There is a lack of long-term research on cooperative processes [5]. The research aims to conduct the theoretical analysis of SMEs' cooperation.

2. ANALYSIS OF COOPERATION CONCEPTS

At the end of the 19th century, most European countries legalized cooperative societies, benefiting not only employees but also competing smaller enterprises. The cooperation made more profits for enterprises [6]. In that time, US legislative bodies also enabled enterprises to take advantage of cooperation [7]. Gradually, governments in many countries began to promote cooperation among enterprises so that society could benefit more [8].

After analysing about 200 cases of cooperation among enterprises, Dussauge and Garrette (1999) identified three different forms of cooperation. The left side of Figure 1 shows how two enterprises with different goals can use common resources but produce two different products. The middle depicts cooperation where two enterprises produce and sell the same product. The right side shows the third form of cooperation, where one enterprise contributes with its resources to another enterprise and in this way they produce a joint product [9].

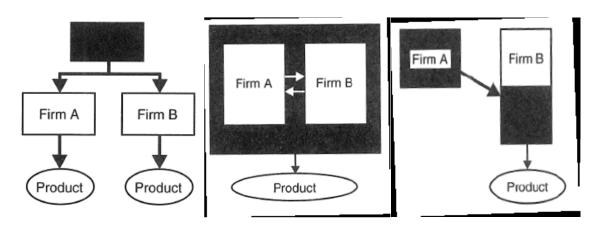


Fig. 1. Three forms of cooperation among enterprises

Resource-based theories comprehensively describe cooperation based on collaborative resource sharing. The enterprises that cooperated to share resources (the left side of Fig. 1) gain a significant competitive advantage over other enterprises producing such or similar types of products. For a small enterprise, there are opportunities to strengthen existing and



create new resources by cooperating with a large enterprise. Both enterprises can mutually reinforce each other by creating a long-term competitive advantage through strategic resources, i.e. to disseminate co-created products through common logistics chains, improve organizational cultures, initiate changes in internal structures, operational strategies and management, integrate and develop organizational resources and common abilities [10].

James, Gee, Love, Roper, Willis (2014) conducted the research on the cooperation between small and large enterprises (the right side of Fig. 1) and its impact on the competitiveness of enterprises [11]. The results of the research revealed that a small enterprise, in cooperation with a large enterprise, has the potential to more easily overcome barriers to develop, better access to demanding customers and resources, as well as innovative technologies. Also, the efficiency of cooperative enterprises increases (risk is distributed, there are opportunities to integrate and improve production processes), competitiveness is enhanced (new opportunities for knowledge transfer, learning, operational flexibility), conditions for better positioning of enterprises in the market are created (opportunities to offer joint services and products, seek new markets, adapt to new market conditions or technologies).

Small enterprises that cooperate with a large enterprise can not only position themselves in the small market in which they operate, but can also set themselves global goals. The main motivation for SMEs to invest in business relationships with a large enterprise is the discovery of new business directions and the capture of new business markets [10]. Large enterprises have the necessary capital and highly qualified staff, while small enterprises have the advantage of flexibility in business processes and relationships. Globalization offers huge opportunities for cooperation. This is an alternative to international competition. Although international or even global cooperation requires a high level of competencies, negotiation abilities and considerable costs of coordination, it can provide very broad access to new geographic markets.

Tregear (2010) defined a process-oriented organization that examines its operating processes to improve business performance [12]. Process management involves coordinating all value creation processes within an organization. SMEs focus on managing internal processes as they cannot have a significant influence on external processes. It is important to evaluate the impact of internal processes on the achievement of enterprise goals. High maturity enterprises have an established culture of internal process management, traditions, and values.

Williamson (1981) developed the theory of operations and costs, according to which the aim of the cooperation among several enterprises (the middle of Fig. 1) is to reduce costs and strengthen the production or service operations performed [13]. The focus is on the external effectiveness of the joint operations of enterprises, based on a common framework for managing cooperative processes, contracts and mutual trust. The important aspects of this theory are the distribution of power between partners, control, and sufficient information for all participants of cooperation. Also, enterprises can share and acquire new knowledge and competencies in this cooperation.

Johannisson (1978) in social network theory emphasized the role of personal relationships in cooperation [14]. According to this theory, trust, friendship, devotion, common values and beliefs are important factors. The author stated that in social networks, formal contracts are often changed by the trust and commitment of participants.



3. THEORY OF COOPERATION AND COMPETITION

In order to cooperate, enterprises need to combine several features: 1) they have to be close in terms of business objectives and performance characteristics, but not necessarily geographically, as distances are often of little importance in global business; 2) enterprise size matters: it is more difficult for a small enterprise to seek cooperation with a large enterprise. However, while the similarity between enterprises enhances overall understanding and compatibility, it often also increases competition. Combining two opposing forces, competition and cooperation, is usually a very difficult task [15].

The theory of cooperation and competition was created in 1949 by Morton Deutsch and later developed by other authors [16]. Deutsch (2011) distinguished two main types of interdependencies between organizations: 1) positive, when the goals of several organizations are linked in such a way that the achievement of one organization's goals also helps another organization to achieve its goal (cooperation), 2) negative, when the goals of several organizations are not aligned and the pursuit of one organization's goal hinders another organization from achieving its goal (competition). Table 1 shows conflicting cooperative and competitive practices.

Table 1. Different practices of cooperation and competition

Cooperation	Competition
Effective cooperation is ongoing	No communication, mistrust, misinformation
There is a sense of responsibility for	Mutual negative attitude towards each
partners	other's intentions
Coordination of actions, distribution of responsibilities	Duplication of actions, no distribution of responsibilities
Matching values and ideas	Disagreements and critical rejections of ideas
Responding to partners' needs	Competitors' needs are ignored, even barriers to meeting them are created
Striving to strengthen not only yourself but also your partner	Striving to strengthen your power and reduce your opponent's power
Settlement of conflicting interests by consensus	Conflicting interests lead to conflicts
Win-win approach	Win-lose approach

Cooperation norms outlined in the theory of cooperation and competition, committing to a respectful, responsible, honest, empowering, and caring attitude to partners [16]:

- to seek common ground and common interest in disagreements;
- when disagreements arise, to solve problems and refrain from conflicts;
- when there is disagreement, it is sought to understand the partners' point of view and to look at their position;
- the partner's ideas and their value are recognized;
- constructive resolution of conflict by distancing from negative emotions and taking responsibility for one's thoughts and actions;



- prevention of conflict and potential harm;
- a positive response to the partner's legitimate needs;
- enabling the partner to contribute effectively to the cooperation;
- sharing information with a partner;
- activity and efficiency in decision-making processes;
- honesty, justice and flawless moral;
- openness and transparency to the extent required by the common interest of the cooperation.

The most important implication of the theory of cooperation and competition is that the orientation to cooperate, i.e. a win-win strategy is in many cases more successful than a win-lose strategy because it enables several enterprises to work together in order to find constructive solutions that are favourable to all negotiating partners. Also, it is important to create an environment favourable for cooperation, when the right conditions of state are created for cooperation, and cooperative processes are supported by company communities, the media, and the public. Therefore, cooperative networks of business organizations are becoming more widespread in the economies of advanced countries.

4. BASIC PROVISIONS OF RESOURCE-BASED THEORY

Resource-based theory primarily treats an enterprise as a set of resources. Namely, these resources and how they are combined make enterprises different. When analysing an enterprise, it is viewed from the inside out, and the starting point of the analysis is the internal environment of the organization.

Wernerfelt (1984) presented the first formulation of resource-based theory as the basis for an enterprise's competitive advantage, which is primarily the application of a package of valuable tangible or intangible resources (assets) at the enterprise's disposal. [17]. The main objects of the resource-based theoretical approach are the characteristics of the enterprise's internal environment, the formation, and implementation of the strategy. The ability to integrate the characteristics of the internal environment into the enterprise's strategy is essential [18].

Resource-based theory is substantiated with the notion that the unique and strategic resources of the enterprise are a source of competitive advantage. An enterprise can gain an advantage when its resources are rare, valuable, not imitated, unsold, irreplaceable and specific [19]. Enterprises have different resources that make it possible to form different strategies, so the key factors in strategy development are the internal resources of the enterprise. According to Barney (2001), the development of a theory that is worth applying to business requires a clear definition of resources and a strategy for using them.

In scientific literature, resources are divided into two main groups: they can be tangible and intangible. Tangible resources can be physical objects: land, buildings, machinery, capital, etc. Tangible resources can be easily bought and, therefore, they have a small competitive advantage in the long run as competitors can buy them identical or even better. Intangible resources are all others that do not have a physical form, such as enterprise reputation, trademark, intellectual property, licenses, etc. Unlike tangible resources, the image or reputation of an enterprise needs to be developed over a long period of time and its image



cannot be bought by other enterprises on the market.

Intangible resources can be classified into several groups: heterogeneous and immobile.

Heterogeneous resources. The skills, abilities, and other resources an enterprise has are different from those in another enterprise. If enterprises had the same resources, they would not implement different competitive strategies, and a theoretical ideal competition would dominate in the market. Therefore, researchers assume that enterprises achieve a competitive advantage by using different combinations of available strategic resources [20].

Immobile resources. These resources are not mobile, they do not move from one enterprise to another, at least in the short term. Resource immobility prevents enterprises from copying other enterprises' strategic resources and implementing the same strategies. Intangible resources such as knowledge, intellectual property, company reputation are immovable resources.

Recently, scientific literature has focused on the involvement of enterprises in business networks as more and more enterprises start to avoid acting alone. By creating added value, enterprises integrate into a network of business relationships [21]. This network of relationships with other enterprises, economic or social entities and individuals creates some intangible relative resources that are valuable to the enterprise. Such intangible resources are called social capital, which can provide the enterprise with the strategic resources necessary to create a sustainable competitive advantage. The concept of social capital is based on the view that entities within a given network can benefit from their social structures and membership in this network.

Researchers investigating the links between an organization's internal resources and competitive advantage have highlighted strategic resources of particular importance for long-term competitive advantage [17], [19]. According to Rothaermel (2016), strategic resources have to meet the requirements, and their suitability is evaluated according to a certain order (see Fig. 2).

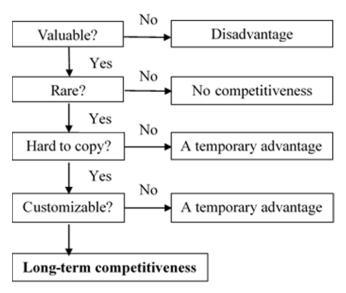


Fig. 2. Assessing the suitability of strategic resources



First, a resource must be valuable, then rare, the third step is to evaluate whether it is difficult to copy it, and finally its applicability within the enterprise to create new value is evaluated. If a resource meets all these criteria, it can be considered as a strategic resource that provides long-term competitiveness [22].

5. CONCLUSION

Recently, the concept of cooperation has become broader and covers many different forms of cooperation. New needs and opportunities also lead to new forms of cooperation. Not only one type of enterprise and organization can cooperate, but also different enterprises, natural persons, social business enterprises and NGOs looking for new opportunities and partners. Cooperation can take place both after the legal establishment of relationships and informally. Cooperative activity is not widespread in Lithuania compared to other European Union countries. There has been no breakthrough in this area in the last few years. Foreign experience shows that the significance of cooperation for the well-being of small and medium-sized enterprises, the users of the services they provide, the state economy and even the social environment is obvious. The willingness and ability of business, the non-governmental sector and individuals to cooperate, and the ability of the public sector to support cooperative initiatives, directly affect the social and economic well-being of individuals and the state as a whole.

One of the obstacles to the development of cooperation and other forms of collaboration is seeing a potential partner as a hostile competitor. The cultural and social legacy of Lithuania is unfavourable – there is a lack of trust-based environment. Cooperative traditions and culture take time to develop. Quite often an enterprise, organization or person does not have a long-term strategy – they do not see the prospects of their activities after five or ten years. Without the vision which direction to move forward, it is difficult to operate together for joint activities. Human resources are very important – the cooperation needs a good manager. Partners need to be ready to invest. With all the stakeholders involved in investing, there is a need to investigate how the money invested contributes to improving the performance of a particular enterprise. Investment requires strong partner confidence.

With the increase of globalization of the market, cooperation among SMEs is intensifying. Multinational corporations invest large sums of money in supply chain development and thus drastically reduce product production costs, that is why SMEs often choose to cooperate in order to survive in the market. Individual SMEs cannot be strong in all areas, so they have to specialize and learn to combine their resources and abilities with other enterprises and organizations. The cooperation begins with the identification of possible common goals, the creation of an appropriate environment for mutual business and the conclusion of commercial contracts. Often, these initial stages are the most challenging for successful cooperation.



REFERENCES

- [1] European Commission. Annual report on European SMEs 2018/2019, from https://ec.europa.eu/growth/smes/business-friendly-environment/performance-review en#annual-report, accessed on 2020-03-06.
- [2] Cunningham, J. S., Link, A. N. (2014). Fostering University-Industry R&D Collaborations in European Union Countries. *Whitaker Institute Working Paper*, no. 42, p. 1-19.
- [3] Baležentis, A., Skeberdytė, L. (2015). Mokslo ir verslo organizacijų tinklaveika Lietuvos biotechnologijų sektoriuje. *Management Theory and Studies for Rural Business and Infrastructure Development*, vol. 37, no. 3, p. 368–380.
- [4] Bach, M. P., Vukšic, V. B., Vugec, D. S., Stjepic, A-M. (2019). BPM and BI in SMEs: The role of BPM/BI alignment in organizational performance. *International Journal of Engineering Business Management*, vol. 11, p. 1-16.
- [5] Giacosa, E., Mazzoleni, A., Usai, A. (2018). Business Process Management (BPM): How complementary BPM capabilities can build an ambidextrous state in business process activities of family firms. *Business Process Management Journal*, vol. 24, no. 5, p. 1145-1162.
- [6] Lipczynski, J., Wilson, J. O. S., Goddard, J. A. (2009). *Industrial organization: Competition, strategy, policy*. FT Prentice Hall, Harlow, England; New York.
- [7] Levin, M. A., McDonald, R. E. (2006). R-A Theory as a Post-Chicago Argument for Legal Coopetition. *Marketing Management Journal*, vol. 16, no. 2, p. 1–12.
- [8] Salvetat, D., Géraudel, M. (2012). The tertius roles in a coopetitive context: The case of the European aeronautical and aerospace engineering sector. *European Management Journal*, vol. 30, no. 6, p. 603–614.
- [9] Dussauge, P., Garrette, B. (1999). *Cooperative strategy: Competing successful through strategic alliances*. Wiley, Chichester.
- [10] Jemieson, D., Fettiplace, S., York, C., Lambourne, E., Braitford, P., Stone, I. (2012). *Large Businesses and SMEs: Exploring how SMEs interact with large businesses*. ORC International, London.
- [11] James, A., Gee, S., Love, J. H., Roper, S., Willis, J. (2014). Small firm-large firm relationships and the implications for small firm innovation: what do we know? *Enterprise Research Centre White Paper*, no. 9, p. 1-51.
- [12] Tregear, R. (2010). Business Process Standardization Handbook on Business Process Management. Springer, Berlin.
- [13] Williamson, O. E. (1981). The Economics of Organization: The Transaction Cost Approach. The American Journal of Sociology, vol. 87, no. 3, p. 548–577.
- [14] Johannisson, B. (1987). Beyond Process and Structure: Social Exchange Networks. International Studies of Management & Organization, vol. 17, no. 1, p. 3–23.
- [15] Raue, J. S., Wallenburg, C. M. (2013). A like or not? Partner similarity and its outcome in horizontal cooperations between logistics service providers. *Logistics Research*, vol. 6, no. 4, p. 217–230.



- [16] Deutsch, M. (2011). Cooperation and Competition. Editor Coleman, P. T. *Conflict, Interdependence, and Justice. The Intellectual Legacy of Morton Deutsch*. Springer, New York, Dordrecht, Heidelberg, London, p. 23–40.
- [17] Wernerfelt, B. (1984). A Resource-Based View of the Firm. *Strategic Management Journal*, vol. 5, no. 2, p. 171–180.
- [18] Rugman, A. M., Verbeke, A. (2004). Final Word on Edith Penrose. *Journal of Management Studies*, vol. 41, no. 1, p. 205-217.
- [19] Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management*, vol. 27, no. 6, p. 643–650.
- [20] Barney, J. B., Della Corte, V., Sciarelli, M., Arikan, A. M. (2012). The role of resource-based theory in strategic management studies: managerial implications and hints for research. Ed. Dagnino, D. B. *Handbook of research on competitive strategy*. Edward Elgar,
- Ed. Dagnino, D. B. *Handbook of research on competitive strategy*. Edward Elgar, Cheltenham, p. 109-146.
- [21] Ma, X., Yao, X., Xi, Y. (2009). How do inter-organizational and interpersonal networks affect a firm's strategic adaptive capability in a transition economy? Journal of Business Research, vol. 62, no. 11, p. 1087–1095.
- [22] Rothaermel, F. T. (2016). *Strategic management*. 3rd Edition. McGraw-Hill Irwin, New York.



OBSERVATION OF INTERNAL AUDIT WITHIN THE TRANSITION PROCESSES IN THE REPUBLIC OF SERBIA IN INDUSTRIAL AND OTHER COMPANIES

Bogdan Laban¹, Ivan Arnautović², Maja Jokić³, Dragana Popović⁴, Zoran Mihailović⁵, Dragan Mihailović⁵

Abstract: The starting point of internal audit work stems from the basic function that led to the introduction of internal audit. The authors point out that internal audit should focus its work on the most optimal and realistic analysis of the company in which it was introduced. Specifically, in this paper, the authors draw attention to the fact that an internal audit within an industrial enterprise should justify its existence by creating general conditions for true management reporting. In addition, it can assist with the work of state bodies in the reporting of these bodies by an industrial enterprise.

The transition period in the Republic of Serbia will be accompanied by the transitional activities of a large number of entities, and it is therefore expected that the formed internal audit in companies will initiate the initiative to raise professional issues related to true, timely, economical financial reporting within the enterprise, but more broadly from foreign authorities.

It is to be expected that internal audit will play an increasingly important role in the Republic of Serbia.

Key words: *Internal audit, modeling, enterprice.*

1. ONGOING INTERNAL AUDIT INTRODUCTION PROCESS AS A FACTOR OF SAFETY IN WORK IN INDUSTRIAL ENTERPRISES IN THE REPUBLIC OF SERBIA

Top management of industrial as well as other companies needs to improve overall business results. In their work, they focus their attention on increasing production, but also on measures that will increase turnover, that is, as part of the adopted measures that will increase the profit of the company.

In this context, you should pay attention to the internal audit recommendations that are submitted to top management [1], [2], [3], [4], [5]. Adoption of these recommendations can eliminate in the short term the errors and irregularities that exist in the functioning of the

¹City administration of the City Subotica, Trg Slobode 1, 24000 Subotica, Serbia

²High School of Entrepreneurship, Majke Jevrosime 15, 11000 Beograd, Serbia

³Faculty of Engineering Novi Sad, University of Novi Sad, Trg Dositeja Obradovića 6, 21000 Novi Sad, Serbia

⁴Faculty of Economics Subotica, University of Novi Sad, Dr Zorana Đinđića 1, 21102 Novi Sad, Serbia

⁵University of Montenegro, Faculty of Economics, Bulevar Jovana Tomaševića 37, 81000, Podgorica, Montenegro.



previous work of the company [6], [7], [8], [9], [10], that is, it is possible to improve in the short run the entire company that has accepted the functioning of work based on implemented internal audit in the company.

The results of internal audit work are primarily appealing in the form of reports submitted by internal auditors to top management and top management should consider them in order to improve the functioning of the company.

Thus, internal audit can become a generator of development of any company [11], [12], [13], [14], [15], which is especially important in the work of industrial companies, because by accepting the recommendations of the internal auditor eliminates a large number of heterogeneous business risk in a company managed by top management.

The opinion and findings of the internal auditor should provide guidance for the future work of top management [16], [17], as this can contribute to improving the performance of the entire company [18], [19], [20], that is, in the short term visible results the work of internal audit in a positive way by an industrial company.

2. REPORTING OF INTERNAL AUDIT IN AN INDUSTRIAL COMPANY AND TASKS THAT ARE IMPOSED IN THE WORK OF INTERNAL AUDITORS

Financial reporting is the first and perhaps most commonly used reporting by top management of an industrial company and it is necessary for the success of an enterprise, especially an industrial company.

The impact on the financial success of the company and the management of the management depends on the cost estimate created by the establishment of control mechanisms in the company.

Internal audit should be based on:

- 1. Full implementation of the prescribed procedures to be followed by all employees in the internal audit of an industrial enterprise.
- 2. The application should be a common reference basis for internal auditors, and written procedures should make it easier for auditors to understand the principles of modern auditing techniques and new terminology.
- 3. The procedures and methodologies contained in the procedures should be in accordance with international standards of professional practice of internal audit.
- 4. Procedures shall be provided to all employees of the internal audit department formed.
- 5. With the stated aim of ensuring that methodologies and procedures are in line with best practice and reflect changes in the legal and audit environment, the professional development of internal auditors should be facilitated.
- 6. Internal audit executives are required to adapt certain parts of the internal audit report to the top management of an industrial enterprise to achieve the principle of realistic reporting.



- 7. Each internal auditor is responsible for ensuring that any changes in methodology and practice are understood and incorporated into the procedures adopted by the senior management of the industrial enterprise.
- 8. The Central Compliance Unit of the Ministry of Finance will be prepared to consider proposals from direct beneficiaries regarding improvements to the procedures and methodologies contained in the internal audit procedures of beneficiaries.

3. MODELING AND PRESENTATION OF INFORMATION COLLECTION BY INTERNAL AUDIT FOR THE PURPOSE OF THE FIRST PROCESSING OF INFORMATION REGARDING THE MAKING OF VALID BUSINESS DECISIONS BY THE TOP MANAGEMENT OF THE ENTERPRISE

The authors have created a general model of information collection by internal audit. It processes this heterogeneous information in the form of making internal audit recommendations, with the aim of making valid business decisions by top management in medium-sized and large enterprises of industrial type in the Republic of Serbia. The view is given in Figure 1.

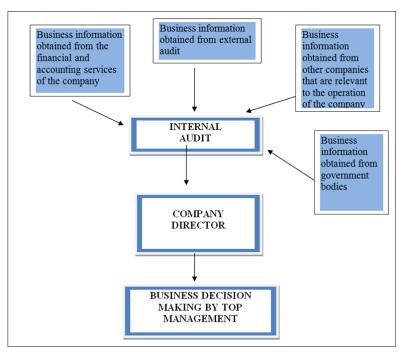


Fig. 1 Model of information gathering by internal audit that processes them with the aim of making valid business decisions by blueprint management in the Republic of Serbia

4. BASIC MEDIATION OF POSSIBLE INFLUENCES ON THE WORK OF INTERNAL AUDIT IN COMPANIES

Strategic management needs to take into account a number of factors that can influence overarching thinking as a model that can be used to introduce a real-world view of top



management's internal auditing business. The author's present table no. 1, as a possible implementation model for the appreciation of many factors (15).

Table 1: Strategic thinking consists of at least fifteen factors (15) that have an impact on the operations of a large number of industrial enterprises.

large number of industrial enterprises.	
ELEMENTS OF STRATEGIC THINKING	ACTIVITIES EXPRESSED DESCRIPTION
Vision	It is necessary that management is able to visualize the company.
Mission	Management defines the tasks of the company.
Analysis	Strategic thinking requires an analytical effort that includes the economic situation, market action, investment options, rationalization of resources, allocation of resources and assessment of performance.
Information	The analytical effort implies the existence of relevant and reliable information. Information can be produced through various processes within the enterprise, but also external sources can be used.
Networking	Strategic thinking is greatly aided networking infection, including the main perpetrators of the company.
Cooperation	Strategic thinking cannot be effectively implemented without the cooperation of all key members of the team management.
Benchmarking	Strategic thinking requires a first idea of where the company is compared with competing businesses. This requires benchmarking, which allows you to define what is realistically achievable in the next planning period.
Communication	Information, analysis, benchmarking, networking and research are valuable if the communication is appropriate.

	Communication can be in the form of reports, papers, memos, presentations and dialogue.
Reaction	Strategic thinking must be that of reacting to changing conditions that affect the opportunities and risks that the company faces.
Intuition	Operational capability allows company managers intuitive assessment to play an important role in successful strategic thinking.
Assessment	Strategic thinking should include gradual evaluation of business opportunities and threats.
Determination	Strategic thinking obliges those who make decisions around competing alternatives and options.
Risk management	Determination of strategic direction bears accepting chance that the strategy will fail in some respects, if not completely. The success can be fickle, even in the best of circumstances.
Commitment	Strategic thinking should be given to the entire management team in order to allow the greatest chance for success.
Flexibility	It is necessary that the strategy be flexible because of the speed with which they perform their duties: changes occur, new products represent, adapt to new technologies, increasing competitive market action and eliminate the threat.

5. CONCLUSION

Internal audit in the Republic of Serbia should give full support to top management in terms of creating general conditions that will increase the safety of work and decision-making function of top management of the company.



In addition, her work creates a system that will enable the improvement of the general business of industrial enterprises and other companies, since the work of internal auditors eliminates the perceived weaknesses of the enterprise system.

Generally speaking, internal audit affects the overall improvement of the security of the company, because it creates a systematic solution for the secure management of the company, which increases the security of business decisions of top management, that is, improves the security of the company.

The authors point out that the contribution of the work is to draw the attention of the expert public to the importance of improving the management and management of industrial enterprises, which are of great importance for the functioning of important enterprises in the Republic of Serbia in the transition processes that have covered all enterprises in the country.

REFERENCES

- [1] Williams, C. (2010), Principi menadžmenta, Data Status, Beograd.
- [2] Novaković, S., Vukasović, D. (2015). Upravljačko računovodstvo u funkciji povećanja produktivnosti preduzeća u restruktuiranju, *Svarog* No. 1: 172-181
- [3] Vukasović, D. (2011). Konurentnost i globalna liberalizacija kapitala, Svarog, 3: 127-133.
- [4] Vukasović, D., Kovačević, Ž. (2013). Značaj analize angažovanih sredstava preduzeća u restruktuiranju, *Svarog*, 6: 223-230.
- [5] Vukaosović, D, Novaković, S. (2015). Likvidnost kao razvojna komponenta u sezonskim varijacijama finansijskih tokova, *Svarog*, 10: 206-2012.
- [6] Popović S. (2014). Socio-ekonomski faktori ograničenja razvoja agrara, Feljton, Novi Sad.
- [7] Popović, S, Majstorović, A, Grublješić, Ž. (2015). Valuation of facilities in use and application of international accounting standards, *Actual problems of economics*, No. 3.
- [8] Bojović, R., Popović, V., Ikanović, J., Živanović, Lj., Rakaščan, N., Popović, S., Ugrenović, V & Simić, D. (2019). Morphological characterization of sweet sorghum genotypes acrossen vironments, *The J. Anim. Plant Sci.* 29(3):2019.
- [9] Popović, S (2015). Implementacija heterogenih rizika u radu interne revizije, *Revizor*, 69/2015, 7-19.
- [10] Popović, S. (2015). Interna revizija kao pokretač finansijske analize u javnim preduzećima RS, *Revizor*, 72/2015, 41-53, 2015.
- [11]. Vukasović, D. (2010). Računovodstvene informacije u službi korporativne decentralizacije, *Svarog*, No. 1: 181-188.
- [12] Vukasović, D. (2016), Uloga računovodstva u kontinuelnom upravljanju finansijskim tokovima u nestabilnim finansijskim uslovima, *Svarog* 13: 151-160.
- [13] Vidicki, Đ., Vrkatić, L., Vukasović, D. (2018), Ekološki i zdravstveni turizam iz perspektive građana Novog Sada, *Svarog*, 16: 160-172.
- [14] Terzić, D., Popović, V., Malić, N, Ikanović, J, Rajičić, V., Popović, S., Lončar, M & Lončarević. V. (2019). Effects of long-term fertilization on yield of siderates andorganic matter content of soil in the process of recultivation. *The J. Anim. Plant Sci.* 29(3):2019.



- [15] Popović, S., Đuranović, D., Laban, B., Ivić, M., Jovin, S., Nastić, S., Grublješić, Ž., Popović, V. (2018), Impact of different light intensity on the production of the plant narcissus I. and its financial effects, *Economics of Agriculture*, 4: 1359-1370.
- [16] Novaković, S., Bogdan, L., Vukasović, D., Ivić, M., Popović, V., Popović, S. (2018), Internal and external audit as a factor in improving the management of the Agricultural enterprise, *Poljoprivredna tehnika*, 4: 8–12.
- [17] Northouse, P. (2008), Liderstvo. Beograd,: Data Status.
- [18] Vukasović, D., Martinov, D. (2018), Analiza finansijskih indikatora troškova nabavke, *Svarog*, 16:151-159.
- [19] Cantino, V. (2009), Korporativno uptravjanje, merenje performansi i normativna usaglašenost sistema internih kontrola, Beograd, Data Status.
- [20] Popović, S., Novaković, S., Đuranović, D., Mijić, R., Grublješić, Ž., Aničić, J. & Majstorović, A. (2017), Application of international accounting standard-16 in a public company with predominantly agricultural activities, *Economic Research-Ekonomska Istraživanja*, 30: 1, 1850–1864.