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FROM THE EDITORIAL COMMITTEE

We are giving you the next 31th 3 (2024) issue of the Scientific Journal of the Faculty of Management at the Rzeszow University of Technology entitled “Humanities and Social Sciences”.

The aim of the Publisher is to raise the merits and the international position of the quarterly published by the Faculty of Management, that is why we are still developing the cooperation with foreign team of reviewers, as well as an international Scientific Council. The Editors have also attempted to apply for international databases; currently the quarterly HSS is indexed in **Index Copernicus Journal Master List, The Central European Journal of Social Sciences and Humanities (CEJSH) ERIH PLUS, DOAJ and EBSCO**.

The Journal has been also included in the list of projects qualified for funding under the **“Support for scientific magazines program”**.

The articles published in this publication are devoted to the broader issues of the humanities and social sciences. They are the result both of theoretical and empirical research. The subjects covered vary considerably and reflect the interdisciplinary nature of the Journal. We do hope that the papers published will meet your kind interest and will be an inspiration to further research and fruitful discussions.

On behalf of the Editorial Board of “Humanities and Social Sciences” we would like to thank the Authors for sending the outcomes of their research. We would like to express particular gratitude to the Reviewers for their valuable feedback that greatly contributed to increasing values of the scientific publications.

With compliments
Editorial Committee

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PROGRAM LIFE CYCLE – USING THE EXAMPLE OF A STUDENT PREINCUBATION PROGRAM

Modern businesses face various challenges, both from their environment and from within. By solving business problems, economic entities can act independently and also collaborate with other organizations, aiming for efficient and effective implementation of strategic and operational changes that make up programs, which have been growing in popularity in recent years. While the literature on the subject describes cooperation in the implementation of programs between businesses, there is a research gap in relation to intersectoral cooperation for the scope being studied. This article aims to identify the process of initiating, defining, planning, delivering projects, renewal, and program project solutions using the example of a preincubation program. This program is implemented by a manufacturing company located in Poland in collaboration with a third-sector, non-profit entity. The case study method is used in the research process.

Keywords: preincubation, project program, preincubation program, life cycle, intersectoral cooperation.

1. INTRODUCTION

Programs play an important role in the practice of organizational functioning, and their significance, as well as the significance of program management, continues to grow. They represent an approach focused on the effective and efficient implementation of comprehensive changes in a turbulent and constantly changing environment, which is inherently associated with risk (Bukłaha, 2022). Achieving the defined benefits of a program is possible through the implementation of process groups that constitute a repeatable pattern of its course, consisting of universal principles, guidelines, and planning and implementation methods (BenMahmoud-Jouini, Charue-Duboc, 2022). By recognizing the repeatability of model structures, these structures can be defined as cyclical, forming part of the program's life cycle model (Trocki, 2013). The aim of the

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article is to identify the process of initiation, definition, and planning, as well as the delivery of projects, renewal, and program project resolution using the example of a pre-incubation program. This program was implemented by a production company located in Poland in cooperation with a non-profit entity (Foundation). The case study method was used in the research process.

2. PROGRAM OF PROJECTS

Currently, organizations operate in a multi-project environment, which means that they focus their attention not on one project, but on the entire portfolio or program of initiatives (Janasz, Wiśniewska, 2014). Programs constitute a group of mutually related projects, programs, and other activities managed in a coordinated manner that allows for achieving benefits and a level of control that would not be possible if projects were implemented individually (Project Management Institute, 2021; Partington et al., 2005). Programs represent a temporary and flexible organization created to coordinate a set of related initiatives and actions on the path to achieving results derived from the strategic goals of the organization (Project Management Institute, 2006). They are oriented towards the long term, require strategic decision-making, and involve continuous learning in the process of reducing ambiguity during their implementation. In contrast to projects, they do not focus on delivering results within specific constraints, their attention is devoted to implementing changes and achieving benefits (Bukłaha, 2022).

In multi-project management, the achievements of managing individual ventures are used, taking into account the specific circumstances of the multi-project environment. In program management, the focus is on harmonizing component projects. The main problems here are the search, creation, and discounting of synergy effects, as well as program benefits management. Project management is an area of strategic management that aims to effectively and efficiently link initiatives with the organization's strategy (Trocki, 2013; Trocki, Sońta-Drażkowska, 2009).

3. PROGRAM LIFE CYCLE

Programs, by their nature, are processes, so managing them should be based on a process approach, its principles, and methods. This means that the appropriate model for describing initiatives is a process model, which is used to characterize dynamic organizational phenomena, including program projects. Research on the proper implementation of programs aims to develop the project execution process, which involves transforming the program's input variables into its expected benefits (Trocki, 2013; Bitkowska, 2009). These processes are captured in the form of the program life cycle, i.e., the model of program implementation over time, which determines the diversity of situations that occur during its implementation. These situations are referred to as phases of the program life cycle. These studies have not led to one universally accepted, generalized model of program implementation due to their diversity. The reference point for programs is the process of implementing changes and achieving benefits for organizations, rather than the production cycle of the project result (Table 1) (BenMahmoud-Jouini, Charue-Duboc, 2022; Sońta-Drażkowska, 2018; Sekuła, 2014).

Table 1. Concepts of the program life cycle

| | Author of the concept | | |
|---------------------------|--|---|---|
| | PMI | Thiry | Pellegrinelli |
| Project life cycle phases | <ul style="list-style-type: none"> • Pre-program • Program establishment • Establishment of management structure and technical infrastructure • Benefits delivery • Program closure | <ul style="list-style-type: none"> • Formulation • Organization • Implementation • Evaluation | <ul style="list-style-type: none"> • Initiation • Definition and planning • Project delivery in the program • Program renewal • Resolution |

Source: Thiry (2007); Project Management Institute (2006); Pellegrinelli (1997).

M Thiry (2007) proposed an iterative program life cycle, distinguishing the following phases (Figure 1):

- **Formulation** – defining the goal and identifying stakeholders along with their needs and expectations, determining program benefits, defining critical success factors and key performance indicators. During this phase, the identification of possibilities and the selection of the best course of action, initiation, and evaluation of ideas take place, and the decision to start the program is also made. Unlike project initiation, the formulation phase is a complex process characterized by a high level of ambiguity.
- **Organization** – evaluation and selection of projects and other actions required to deliver defined benefits, creation of teams and program structures. The phase involves the creation of procedures and operational structures that enable the management of shared resources, interdependencies, and linkages between projects, ensuring continuity in delivering benefits.
- **Implementation** – starting projects and other actions ensuring program implementation, controlling and monitoring tasks, verifying the scope, approving delivered interim products, and introducing changes to ongoing activities.
- **Evaluation** – evaluation of program-level benefits achieved through the implementation of individual projects that make up the program. During the evaluation phase, a decision is made to close or renew the program and start another cycle.

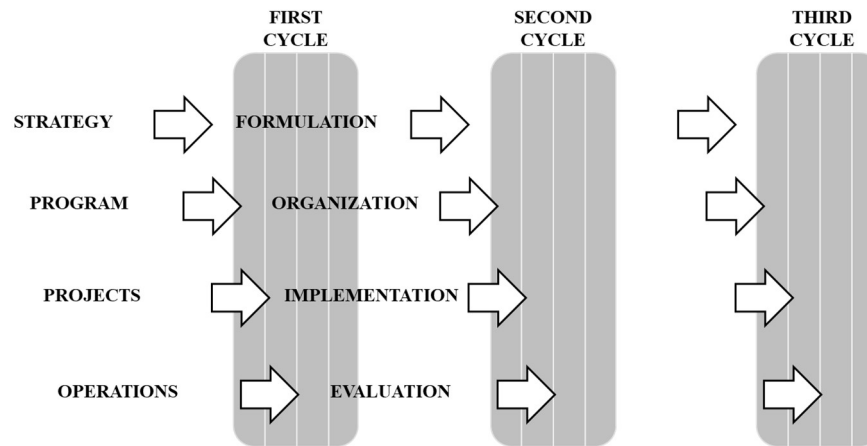


Figure 1. Program life cycle

Source: Thiry (2007).

The individual phases of the program life cycle have been assigned to levels of actions taken by the organization, indicating the nature of the program, which is a connecting element between strategic management and project management. Therefore, programs are undertaken to implement strategies and achieve strategic goals through projects and tasks carried out within them (Thiry, 2002).

The program life cycle proposed by Peregrinelli (1997) consists of 5 phases, including:

- Initiating – defining the need to start the program and determining the expected benefits after its implementation.
- Defining and planning – determining how the program will generate value. This phase involves developing a detailed program and project plan, allocating resources, and communicating with stakeholders.
- Delivering projects in the program – controlling and monitoring the progress of work carried out in individual projects, evaluating the benefits delivered by the program, and responding to identified deviations from the plan.
- Program renewal – determining whether the implemented program needs to verify the defined goals and assumptions. This phase may be related to the annual budget cycle, strategic review, or adjustment of initiatives to current strategic directions of the organization.
- Closure – occurs when there is no longer a business justification for the program. After completing the program, an evaluation of its implementation and achieved benefits takes place, as well as the dissolution of program structures and the allocation of resources to other activities.

The Project Management Institute (2006) identified five phases (Figure 2):

- Pre-program – ensuring strong foundations and acceptance for program implementation. The phase includes: ensuring understanding of the strategic value of the proposed business change; identifying stakeholders making key decisions during the program selection process and their expectations and interests; defining program goals and aligning them with the organization's strategic objectives; providing business justification indicating the needs, feasibility, and rationale for

implementing the program; approving the program charter; appointing a program manager/director; developing the program initiation plan.

- Establishing the program – developing a program plan that outlines how it should be managed and defines its key outcomes. The phase concludes with the approval and implementation of the program management plan, which includes information on anticipated results, costs, risks, and how they will be managed. The stage includes: aligning the program's mission, vision, and values with the organization's goals; developing a detailed cost estimate and schedule; conducting feasibility studies, where possible, to assess the program's technical and economic feasibility; establishing decision-making and procurement principles, as well as selecting subcontractors to support the program; developing a “program architecture” that outlines how projects will deliver results that lead to expected benefits; developing business justifications for each project, including technical, investment, and legal factors that may apply to these projects; communicating with stakeholders and gaining their support. In the event of a decision to proceed with the program, after completing this phase, the program manager/director should have authorization to begin its implementation, according to the developed plan and within the constraints set by the organization.
- Establishment of management structure and technical infrastructure – establishment of an organizational structure in which the program will be implemented, as well as providing infrastructure to facilitate its implementation. Infrastructure includes both appropriate processes and procedures, as well as technical solutions such as project management support systems.
- Delivering benefits – initiating projects that are part of the program and coordinating their results in such a way that they contribute to achieving the benefits of program implementation. Delivering benefits is a key phase of the program lifecycle, which often lasts the longest and absorbs the most resources.
- Closing the program – the program phase is concurrent with the project closure stage. In general, it involves transferring all responsibilities, unfinished activities, risks, issues, etc. in a way that ensures their support. The phase includes the following activities: stakeholders and program sponsor reviewing the status of benefits; resolving the program's organizational structure; resolving the program management team while ensuring proper movement of all material resources (equipment, etc.); providing support that will provide guidance and service in case of any issues or defects; in general, such support. During this phase, the following occurs: establishment of organizational structures for monitoring and controlling projects; initiating projects that will allow the achievement of program goals; managing the transition from the current state to the planned or target state; ensuring that project managers have implemented project management methodology; ensuring that project results meet their technical and business expectations; analyzing progress in relation to the plan; identifying changes in the environment that may affect the program plan or expected benefits; ensuring that typical actions and dependencies between projects and other programs in the portfolio are coordinated; identifying risks and ensuring appropriate actions are taken related to them; identifying issues and ensuring their proper handling; coordinating the effective use of resources within the program and project activities; reviewing change requests and accepting additional actions where appropriate; establishing

thresholds for corrective actions in situations where it turns out that benefits are not delivered as expected; communicating with program stakeholders. It is ensured through appropriate contracts; documenting the experience in the organization's databases, so that it can be used in the future for similar programs. Experience is most often expressed by describing weaknesses or areas requiring improvement, as well as describing strengths and best practices that can be used in the future; preserving and cataloging all program-related documents to facilitate their use in the future; managing all transfer operations.

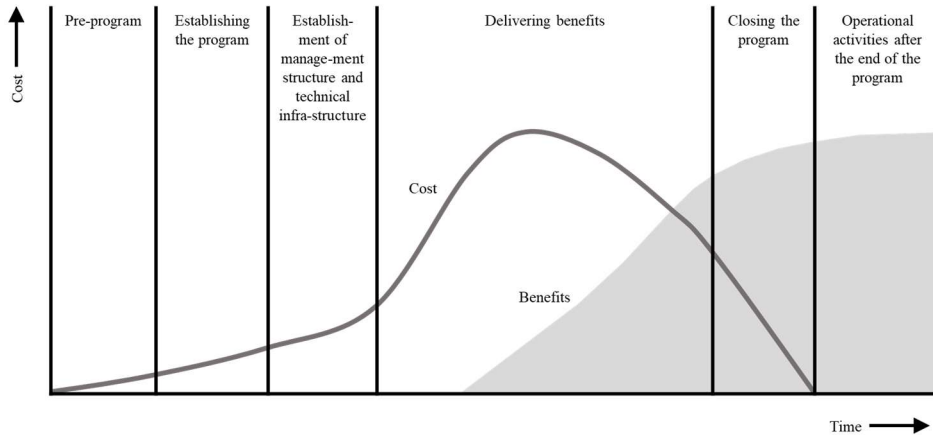


Figure 2. Program life cycle

Source: Project Management Institute (2006).

4. CASE STUDY

As part of the case study, a program developed and implemented by the Foundation for Creating Shared Value by Students is presented. The authors of this article actively participated in the activities carried out throughout the program life cycle. The gathered experiences and drawn conclusions allowed for the preparation of material that serves as an example of cross-sector collaboration.

4.1. Initiating

The Program Sponsor is focused on continuous development of products and functional areas within their organization international structures. In connection with this, the company's management has concluded that it needs a new "place", "space" or "platform" that will help find and develop new ideas to solve business problems that have been unadapted for some time to undertake development activities.

To meet this need, the company turned to the Foundation, which, as part of its team of experts, has individuals with extensive experience in creating incubation and acceleration programs used at international universities. The benefits to be achieved through the activities under the Program were the desire to respond to market challenges in terms of building an attractive employer image, searching for innovations in functional areas of organizations, developing cooperation with academic experts, as well as with entities from the third sector. The Program aimed to meet the needs of both future employers and

individuals entering the job market. It was assumed that attractive and modern development opportunities would be created for students in the academic ecosystem in Poznań. The idea was also to ensure that the benefits of implementation would be shared with the local community and the region. The pre-incubation was bilateral, meaning that for each side of intersectoral cooperation.

4.2. Definition and planning

It was established that the Program participants would be presented with questions that are important for the future of the company from a strategic perspective, and for which their own answers have not been specified within the organization so far. Representatives of the company were convinced that a fresh perspective and youthful creativity would prove to be an added value, which had not been previously obtained through other socially responsible actions.

In order to develop the assumptions and scope of the Program, independent expert research was conducted to identify business problems in various functional areas, ranging from marketing to logistics and production. Representatives of middle and senior management (including a board member) participated in the identification of challenges. In January 2021, 15 ideas for potential project areas within the pre-incubation program were identified. Then the received results were consulted with experts from the Foundation, and a series of introductory workshops were conducted to familiarize individuals from the company with the Foundation's proprietary pre-incubation process model, project approach, and innovation-oriented mindset combined with the idea of creating startups. Students who have innovative ideas often do not know how to implement them. Furthermore, they need formal support to gain preparation for the implementation of real business projects and their testing in the market, as well as application in real business conditions. The creation of the Program aimed to provide such support and enable students to develop within the Poznan university ecosystem with business and the third sector. It was assumed that this way of operating would be attractive to students and allow the company to have a stronger presence in the environment of young, talented people under the supervision of independent experts from the Foundation. The goal of the meetings was to outline the actions that are necessary to be taken in order to establish the first corporate incubator. The process of building the Program's assumptions, as well as determining the appropriate guidelines, took about 5 months (February-June 2021). During which numerous working meetings took place (as many as 11), two trainings for future mentors, as well as a series of consultations in strictly project areas selected for students in the Program, to ensure that they will be interesting for potential participants. The result of these efforts was the creation of a system of project challenges that evolved until the official start of the Program.

4.3. Delivering projects in the program

Implementing the Program requires appropriate resources and budget.

The company was prepared to invest in people, technologies, and infrastructure to create an effective and efficient Program. In addition, a sufficient budget was established to provide financial support for the best project teams and to provide appropriate substantive support for all Program participants. The budget assumed nearly 83 thousand PLN, of which 21 thousand PLN was directly allocated to rewards for participants. As part of the developed Program, it was foreseen that students would have access to specialists (tutors) from various fields who would help them in implementing their projects. These

mentors will be tasked with imparting knowledge in the areas of business, marketing, finance, law, production, logistics, and other necessary fields that will be essential for the development of initiatives solving identified problems within the company.

Milestones for Program Participants:

- Gate I – team presentations – problem recognition and research,
- Gate II – team presentations – problem solution variants,
- Gate III – team presentations – selection of the best solution – ceremonial finale with awards for the best projects

Projects that reached the grand finale focused on both internal processes – a virtual advisor for business travel, truck logistics on the factory premises in Wronki, a gamification platform for Group employees, as well as external ones – an innovative interface for ovens, Internet Things in household appliances, analysis of communication challenges in an aging society, or the concept of multisensory interaction with users.

4.4. Program Renewal

The Program was continuously monitored by the Steering Committee, consisting of an HR representative and a member of the Foundation. Before determining whether the Program should be continued, an evaluation was conducted, which included:

- Evaluation of achieved goals – it was verified whether the Program achieved its main goals, namely preparing participants – students for conducting innovative projects through acquiring practical knowledge and experience. For this purpose, the initial goals and assumptions of the program were compared with the results achieved during the program implementation.
- Participants' satisfaction – the level of satisfaction of students during and with the Program was examined, especially regarding the level of preparation and quality of conducted workshops, the quality of mentors, and the organization of the Program itself.
- Project success – it was also important to collect information on an ongoing basis about the success of the projects that were implemented as part of the Program. The results of the student teams' work allowed for the creation of a knowledge base about 7 projects.
- Cost and benefit analysis – the budget was fully utilized. No additional costs were incurred. On the other hand, the benefits that the program brought to the participants, as well as to the company and foundation itself, exceeded initial expectations.
- Evaluation of the program's impact on the development of the local startup ecosystem. The program contributed to an increased interest in startups among students. An increase in student activity in the Foundation was observed. Four program participants volunteered for the Foundation. They subsequently obtained funding from the City of Poznań for a six-month internship in the organization.

The evaluation results, including the measurement of achieved benefits, allowed for an assessment of the effectiveness of the Program and enabled its development, resulting in the development of an improved methodology for employee incubation and student pre-incubation. The conclusions drawn from the implementation of the Program allowed for the recognition that the perspective of organizational learning was implemented.

4.5. Solution

Due to the current economic situation in the economy, as well as the strategic goals of the researched company, the decision was made to suspend further implementation of the

Program. The business justification for the program is still valid, but it is not reflected in the current functional activities of the company.

It is worth adding that the formula of the Program was appreciated in the prestigious Employer Branding Excellence Awards competition in the Innovation Employer Branding category (2022). This category recognizes employer branding activities that require a high level of creativity, the use of modern solutions, and the ability to surprise the audience without losing sight of their main goal.

5. CONCLUSIONS

The life cycle of a program is described and explained in the literature by researchers and practitioners in various ways. However, the main components of the process are relatively similar, and even complementary. Certainly, understanding the program's life cycle, its variables, contributes to a reliable and methodical approach and should allow for a successful program implementation. Economic practice in this area does not deviate from the literature's indications but verifies certain assumptions made. The developed pre-incubation program is an example that does not deviate from the guidelines of project management theory. Nevertheless, the verification of initial assumptions and program evaluation can contribute to the development of the planning and implementation area in such a specific field as early-stage business maturity innovations. The authors recognize significant challenges associated with program implementation, where the program coordinator is required to have a different perspective on planning and monitoring. It is also worth adding that despite the established project management standards, program management poses a significant challenge even for large organizations.

REFERENCES

- BenMahmoud-Jouini, S., Charue-Duboc, F. (2022). *Integration of an exploration program with its parent organization: A lifecycle perspective*. "International Journal of Project Management", 40(5).
- Bitkowska, A. (2009). *Zarządzanie procesami biznesowymi w przedsiębiorstwie*. Warsaw: VIZJA PRESS&IT.
- Bukłaha, E., ed. (2022). *Wdrażanie strategii przez projekty*. Warsaw: SGH.
- Janasz, K., Wiśniewska, J. (2014). *Zarządzanie projektami w organizacji*. Warsaw: Difin.
- Partington, D., Pellegrinelli, S., Young, M. (2005). *Attributes and levels of program management competence: an interpretive study*. "International Journal of Project Management", 23(2).
- Pellegrinelli, S. (1997). *Program management: organizing project-based change*. "International Journal of Project Management", 15(3).
- Project Management Institute. (2021). *The Project Management Body of Knowledge (PMBOK Guide)*, 7th ed.; Project Management Institute. Newtown Square, PA, USA.
- Project Management Institute. (2006) *The Standard for Program Management*. Newtown Square, PA.
- Sekula, P. (2014). *Zarządzanie programami według Program Management Institute*. "Barometr Regionalny. Analizy i prognozy", 12(2).
- Sońta-Drączkowska, E. (2018). *Programy w kontekście wdrażania zmian i realizacji strategii*. "Studia i Prace Kolegium Zarządzania i Finansów", 159.

- Thiry, M. (2007). *Program management: a strategic decision management process*. The Wiley guide to project, program, and portfolio management.
- Thiry, M. (2002). *Combining value and project management into an effective program management model*. "International Journal of Project Management", 20(3).
- Trocki, M., Sońta-Drażkowska E., eds. (2009). *Strategiczne zarządzanie projektami*. Warsaw: Bizarre.
- Trocki, M., ed. (2013). *Nowoczesne zarządzanie projektami*. Warsaw: PWE.

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PRIVATE SPENDING ON EDUCATION IN EUROPEAN HOUSEHOLDS

This article aims to present differences and changes in private expenditure on education in European households, with particular emphasis on Polish households. The analysis is carried out based on data from Eurostat and Statistics Poland. The research methods used include, among others, the simple regression method, Ward's method, and the k-means method. In 2021, the highest share of education expenditure in relation to total expenditure was recorded in Cyprus. The lowest share of private spending on education occurred in Sweden, Belgium, and Finland. In most European countries, the percentage of spending on education in relation to total spending has increased. The share of expenditure on education in Polish households was most similar to that of households from Lithuania, Denmark, and the Netherlands. A comparison of different types of Polish households showed that most of the money spent on education was by self-employed people, the richest people, and people from large cities.

Keywords: education, private spending, households, cluster analysis, consumption.

1. INTRODUCTION

In the era of the knowledge-based economy, education plays an important role. Investing in education promotes the development of human capital, which proves the competitiveness of both individuals and entire economies. Education spending is a key element of sustainable social and economic development. Investing in education can contribute to creating societies that are more ecologically conscious, innovative and able to make good decisions (Zafar, Shahbaz, Sinha, Sengupta, Qin, 2020). In order to obtain competitive advantages, innovation depends on the quality of human capital. Investing in education can increase the skills and knowledge of household members, which in turn can foster innovation. Innovations in many spheres of life may result from education and be a key element of sustainable development (Vare, Laussetlet, Rieckmann, 2022; Dean, Elliott, 2022).

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Constantly developing countries that strive to improve qualifications are characterized by higher society wealth and better living conditions of the population (Brożek, Poteralska, Łabędzka, 2022). Societies are aware of the importance of investing in education. Better educated people with high qualifications and skills can obtain higher income from work, adapt more easily to the changing environment, and have greater opportunities to find an interesting place of employment. This results in greater opportunities to meet needs, especially higher-order needs (Piekut, 2014).

The aim of the article is to show differences and changes in private expenditure for educational purposes in European households, with particular emphasis on households located in Poland.

The study consists of the following parts: after the introduction, the theoretical aspects related to the EU policy on investment in education are presented and the more important concepts related to the issue are explained, then the methodology of the study is shown, followed by an analysis of the distribution and changes of private expenditure on education in European households and the identification of groups of countries with similar expenditure and its structure in households. Finally, the findings and conclusions of the analysis are presented.

2. LITERATURE REVIEW

2.1. European Union policy on investment in education

The European Union (EU) is involved in shaping education policies, although competence in this area is mainly in the hands of individual member states. Nonetheless, there are areas where the EU can influence education policy, especially through community programs and sustainable development strategies. Thus, the EU has adopted the Europe 2020 strategy, which includes goals for employment, innovation, education and poverty reduction. As part of this strategy, targets are set for education spending, such as increasing the share of 30- to 34-year-olds with tertiary education or reducing school dropout rates (Hoedl, 2011; Pasimeni, Pasimeni, 2016).

Erasmus+, on the other hand, is an EU program that supports education, training, youth and sports. It aims to increase the quality of education, develop skills and competencies, and foster innovation. The program is an important part of EU policy, affecting the mobility of students, teachers and other education-related staff (Corradi, 2015; Violano, Sotiropoulou, Triantis, 2018).

The EU is working to create a unified higher education area in Europe (EHEA). Programs such as the Bologna system aim to facilitate the comparison and recognition of qualifications and increase the mobility of students and academics in the European space (Díaz-Méndez, Gummesson, 2012, Bergan, Deca 2018).

The European Credit Transfer and Accumulation System (ECTS) is a system that facilitates the comparison of curricula and grades between different European countries. It is a tool that supports student mobility and increases the availability of information on different educational systems (Wagenaar, 2018).

The EU offers financial support to member countries for the development of education, especially in the context of innovative projects adapted to the challenges of the labor market and technology (Kula, Pękowska, 2022). The EU has various financial instruments, such as the European Social Fund (ESF), which support education and training projects, especially those aimed at socially excluded groups.

In addition, the European Union is working with international partners to achieve the goals of the 2030 Educational Agenda, developed by UNESCO. These goals include guaranteeing equality in access to education and ensuring quality education (Michelsen, Wells, 2017).

The above elements show that while the EU does not have full control over the education systems of member states, there are numerous initiatives and programs that aim to support education, increase its quality, mobility and access for all sectors of society. EU education policy seeks to harmonize standards, create synergies between member states and promote sustainable development through education. Private household spending on education is also becoming an increasingly important area of analysis, especially in the EU context. Given the diversity of educational, cultural and economic systems in EU countries, understanding private investment in education becomes crucial to assessing the effectiveness of public systems and the diversity of access to education.

Increased spending on education from public funds can affect the availability of education for all sectors of society. Equality in access to education can contribute to social equality, which is one of the cornerstones of sustainable development. In addition to analyzing public spending, it is important to analyze private household spending on education, which can indicate certain social trends and also unmet needs in this area.

2.2. Private spending on education – some terms

A household is a group of people who share common assets and budgets, which are used to fulfill the underlying purpose of meeting the needs of all its members. In accordance with its basic function, households acquire financial resources, which they then dispose of by using them to purchase consumer goods that meet their needs. Income is obtained through wage labor, social transfers, self-employment, or from non-profit sources (Bywalec, 2010).

On the other hand, consumer spending as defined by the European Statistical Office can be divided in relation to the purpose of consumption based on COICOP classifications, the classification of individual consumption by purpose. According to COICOP, there are twelve categories of spending, which include: (1) food and non-alcoholic beverages, (2) alcoholic beverages, tobacco, drugs, (3) housing, water, electricity, gas and other fuels, (4) clothing and footwear, (5) health, (6) transportation, (7) furniture, household appliances and ongoing household maintenance, (8) recreation and culture, (9) education, (10) communications, (11) restaurants and hotels, (12) miscellaneous goods and services (Eurostat, 2023a). This study discusses private spending on education in European Union countries.

Education is paid for with both private and public funds. In Poland, funding is mainly based on funds from the state budget. Based on data made available by the European Commission, it is noted that public sources of funding for education in Poland include: (1) the educational part of the general subvention from the state budget; (2) own funds of local government units; and (3) targeted subsidies from the state budget (European Commission, 2023a). Public financing of education can be measured using a breakdown of the share of education spending in relation to GDP (Gross Domestic Product).

Funds from the state budget are supplemented by private funds of households, the level of which varies. Determinants of educational spending include:

- parents' education,
- place of residence,
- the level of per capita income in the household,

- the main source of income,
- type of household in terms of its composition (Sztanderska, 2013).

Education expenses include, in their scope, tuition fees for kindergartens and schools (including colleges). These include entrance fees, registration fees, tuition, camps, field trips, fees for courses, diplomas, exams, graduation, laboratory, physical education, etc. (United Nation, 2018). The study compares EU countries in terms of private financing of education. For this reason, the funds incurred by households for this purpose were juxtaposed in relation to total spending.

3. DATA SOURCE AND RESEARCH METHODOLOGY

The analysis included data from the European Statistical Office and the Central Statistical Office. The object of interest was the 27 countries of the European Union. The survey consisted of two stages:

Step 1 Investigating changes in education spending by European households required:

- aggregating data from the Eurostat database for individual countries,
- calculation of the share of education spending in total spending in households from each country,
- the creation of a ranking of countries in terms of the share and changes in that share of household education spending.

Step 2 Identify household types in terms of the share and structure of education spending in European countries. Implementation of this task required:

- standardization of the data (the procedure was carried out only for clustering by expenditure structure, the amounts of education expenditure were standardized),
- conducting clustering by the Ward method and determining the optimal number of clusters,
- carrying out clustering using the k-means method,
- describe and label the clusters.

Ward's cluster analysis determined the optimal number of country groupings based on the structure of education expenditures. The dendrogram revealed a distinct jump at the 2297 level, leading to the formation of six clusters of countries. Subsequently, the k-means method was applied, adopting an alpha level of 0.05.

Ward's hierarchical method, widely used for its effectiveness (Migdał-Najman, Najman, 2013), employs a variance analysis approach to minimize deviations within clusters and maximize diversity between clusters. The dendrogram visually represents this method. The k-means method, a non-hierarchical approach, aims to minimize variability within clusters and maximize it between clusters (Wolynski, Górecki, 2013). This study utilized 11 variables to classify countries based on the share of education spending in total household spending from 2011 to 2021. Standardization was applied for clustering by expenditure structure.

This approach allowed for the identification of typical characteristics in the context of education spending, providing valuable insights into the patterns of expenditure among European countries (Pietrzykowski, Kobus, 2006).

The GSI silhouette index measure was used to evaluate the results of the cluster analysis. The formula for calculating this index is as follows:

$$GSI = \frac{1}{g} \sum_{l=1}^g S(s_l) \quad (1)$$

where:

- GSI – total silhouette index,
- g – number of clusters that resulted from clustering,
- s_l – l -th cluster, where $l = 1, 2, 3, \dots, g$,
- $S(s_l)$ – partial silhouette index determined for cluster s_l .

Silhouette index values are in the range $[-1; 1]$. According to Kaufman and Rosseeuw (Kaufman, Rousseeuw, 2005), the GSI is interpreted for:

- $GSI \leq 0.25$ – there are no clusters in the given set,
- $0.50 \geq GSI > 0.25$ – poor structure of received groups,
- $0.70 \geq 0.50$ – correct clustering structure,
- $GSI > 0.70$ – strong clustering structure,

Statistical analysis was carried out using Statistica 13.3 and Excel.

4. RESULTS OF THE STUDY AND DISCUSSION OF THE FINDINGS

4.1. Distribution of education spending among European households

The purpose of this section is to show the distribution of education spending among European households. The share of private spending on education in 2021 in the European Union countries is shown in Figure 1. Based on the data, it is shown that there is significant variation in the mentioned category of spending between European countries. Households from Cyprus spent the most of their income (3.5%), which significantly distinguishes this country from the rest of the European Union. Both public and private schools are operated in Cyprus. Public institutions operate mainly on a self-financing basis, which contributes to setting high tuition fees for students (European Commission, 2023b). In 2021, the country's state budget allocation to education as a share of GDP was 5.5%, which is average compared to the rest of the European Union (Eurostat, 2023b).

The country with the lowest level of private educational spending is Sweden. In 2021, households spent an average of 0.3% of their income on this purpose. In Sweden, elementary school attendance is free, which applies to both public and private institutions. Books, educational materials, textbooks and school supplies for students are also free. What's more, meals, the cost of excursions and outings to cultural institutions that take place during classes are financed by the schools. Transportation to school activities is also free. Education spending as a percentage of GDP in Sweden is among the highest in the EU (European Commission, 2023c). In 2021, the share of public spending on education as a share of GDP in the country was 6.6%, taking the highest value compared to the rest of the European Union (Eurostat, 2023b). Due to the high share of public spending on education, there is no need to allocate a large portion of private income.

Between Cyprus and Sweden, the difference in the share of spending is 3.2 p.p. In Cyprus, private educational spending is more than 11 times higher than the data recorded for Sweden. As the chart shows, the average for the European Union is 0.9%, the same share was observed among four communities: German, Croatian, Italian and Luxembourg.

In Poland, on the other hand, it was reported in 2021 that private money spent on education as a proportion of total spending stood at 0.7%. This is therefore 0.2 percentage points lower than the average for the European Union. Eight EU countries have a smaller share of this spending category than Poland, while eighteen countries have a larger share. Poland reached a similar share of spending to Lithuania, Denmark and the Netherlands in 2021.

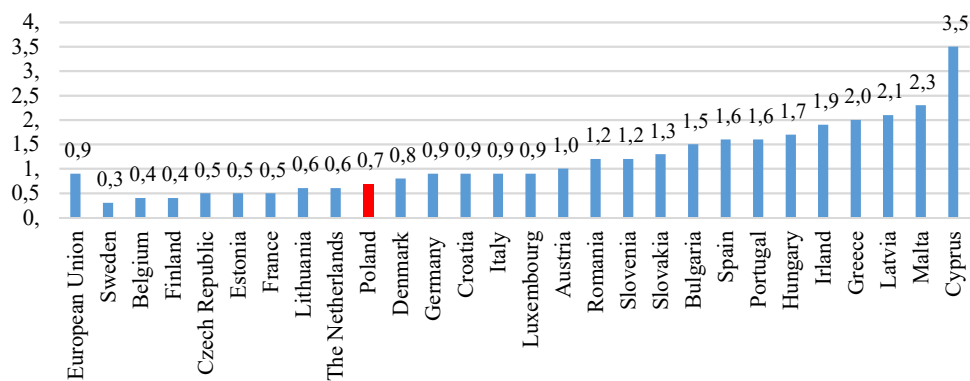


Figure 1. Share of education spending in total spending in European households in 2021 (in %)

Source: Authors' own compilation, based on (Eurostat, 2023d).

A comparison of education spending in the 27 European Union countries as a proportion of total spending in 2011–2021 made it possible to show that their average share in the period under study oscillated between 1.12% and 1.23% (Table 1). The lowest was at 0.3% and in all years concerned Sweden. On the other hand, the highest was observed in 2020 for households from Cyprus (3.9%), which was 2.7 p.p. higher than the average expenses counted for all European Union countries.

To compare the data, the standard deviation, mean, coefficient of variation, skewness and kurtosis were used, the values of which are shown in Table 1. The standard deviation shows by how much all units of a given collective on average deviate from the arithmetic mean of the variable under study (Luszniewicz, Słaby, 2008). The level of standard deviation takes on values in the range of 0.62–0.80. In 2017, private educational expenditures in total expenditures differed on average from the arithmetic mean by about 0.62. In 2020, on the other hand, there were the largest deviations from the mean, averaging 0.8.

The coefficient of variation calculated for private education spending between countries indicates the presence of strong variation. Its values in 2011–2021 oscillated between 54.74% and 65.59%. It reached its highest level in 2020, taking a value close to 65.59%. The year 2020 was the time after the outbreak of the COVID-19 pandemic, at which time many states began remote learning, which may have contributed to increased private spending on adapting students to the new mode of learning, and thus to greater disparities in the level of such spending (Wesoła, 2022).

The skewness coefficient is used to accurately assess the strength and direction of asymmetry (Major, Niezgodna, 2003). The values of this coefficient observed in Table 1 indicate the presence of distribution asymmetry. In all years, the skewness was positive, which proves the right-sided asymmetry of the distribution of the variable “private spending on education as a % of total spending”, so most of the results were below the mean. The skewness, like the coefficient of variation, reached its highest value in 2020, when its level was 1.54, the greatest asymmetry of the distribution occurred then.

Analyzing kurtosis, it can be noted that values in the range $<-3;3>$ occurred in most cases, representing moderate kurtosis. Only in 2020 was the coefficient greater than 3

(3.30), thus indicating significant pointedness of the distribution (Luszniewicz, Słaby, 2008). Positive values inform that there is a high concentration of results around the mean value. Thus, the percentage of education spending in EU countries is similar in many countries.

Table 1. Statistical measures for education spending in European households from 2011 to 2021

| Specification | Average expenses (as % of total) | Standard deviation | Coefficient of variation | Skewness | Kurtosis |
|---------------|----------------------------------|--------------------|--------------------------|----------|----------|
| 2011 | 1.15 | 0.63 | 54.73 | 0.78 | 0.08 |
| 2012 | 1.14 | 0.63 | 55.74 | 0.79 | 0.13 |
| 2013 | 1.20 | 0.67 | 56.29 | 0.64 | -0.39 |
| 2014 | 1.19 | 0.70 | 58.69 | 0.79 | -0.18 |
| 2015 | 1.16 | 0.66 | 56.39 | 0.83 | 0.29 |
| 2016 | 1.17 | 0.65 | 55.87 | 0.70 | -0.06 |
| 2017 | 1.12 | 0.62 | 55.23 | 0.83 | 0.41 |
| 2018 | 1.14 | 0.65 | 57.00 | 0.98 | 0.98 |
| 2019 | 1.14 | 0.67 | 58.75 | 1.09 | 1.27 |
| 2020 | 1.23 | 0.80 | 65.59 | 1.54 | 3.30 |
| 2021 | 1.18 | 0.74 | 62.72 | 1.32 | 2.24 |

Source: Authors' own compilation based on (Eurostat, 2023d).

4.2. Changes in education spending among European households

The purpose of this section is to show the changes that have taken place in the level and share of education spending in European households between 2002 and 2021. When considering changes in the share of education spending over the mentioned period, it can be seen that in most European countries there has been an increase in the category in question in total household spending. The percentage of education spending increased the most in households from Cyprus (by 1.54 p.p. between 2002 and 2021), followed by households from Ireland (by 0.89 p.p.), Malta (0.81 p.p.) and Slovakia (0.52 p.p.) (Table 2).

Turning to the level of spending on education, it should be noted that in Eurostat databases, this spending is available in national currencies. It was decided to examine whether the level of these expenditures has undergone a statistically significant increase/decrease over the twenty-year period analyzed, without taking into account the level of inflation.

Between 2002 and 2021, in most of the analyzed European countries, the level of education expenditures experienced a statistically significant increase ($p < 0.05$ at $\alpha = 0.05$). The exceptions were households from Estonia, Greece and Sweden, where no statistically significant changes ($p > 0.05$ at $\alpha = 0.05$) were observed over the period.

Based on the calculated R^2 values, it can be concluded that the estimated models were able to explain from about 31.0% in Finland to 96.6% in Iceland of the variation in the original dependent variable, the level of education spending.

Between 2002 and 2021, most of the European countries analyzed saw an increase in the percentage of education spending in total spending. Poland and Estonia saw a decrease in the share of education spending, by 0.6 p.p. and 0.7 p.p., respectively. In the Czech Republic, Lithuania and Croatia, a relative stabilization of these expenditures was noted. Cyprus households have the largest share of education spending in household expenditures. In 2021, education spending consumed 3.5% of total expenditures, an increase of 1.5 percentage points compared to 2002. A relatively high share of education spending is also recorded in Maltese households, in 2021 it accounted for 2.3% and was 0.9 p.p. higher than in 2002. Latvians ranked third in terms of the share of education spending in European households. Latvian households spent 2.1% of total expenditures on education, and this share increased by 0.2 p.p. compared to 2021.

Table 2. Share and changes in the level of education expenditures in total expenditures in European households from 2002 to 2021

| Specification | 2002 | 2021 | Changes in pp | Directional coefficient of the trend | R ² | p |
|---------------|------|------|---------------|--------------------------------------|----------------|--------|
| Austria | 0.8 | 1 | 0.2 | 5.50 | 0.883 | 0.0000 |
| Belgium | 0.4 | 0.4 | 0.0 | 1.10 | 0.786 | 0.0000 |
| Bulgaria | 1.0 | 1.5 | 0.5 | 6.10 | 0.865 | 0.0000 |
| Croatia | 0.9 | 0.9 | 0.0 | 2.62 | 0.756 | 0.0000 |
| Cyprus | 2.0 | 3.5 | 1.5 | 15.50 | 0.953 | 0.0000 |
| Czechia | 0.6 | 0.5 | -0.1 | 17.40 | 0.361 | 0.0051 |
| Denmark | 0.8 | 0.9 | 0.1 | 34.40 | 0.948 | 0.0000 |
| Estonia | 1.2 | 0.5 | -0.7 | 0.01 | 0.000 | 0.9472 |
| Finland | 0.5 | 0.4 | -0.1 | -0.003 | 0.310 | 0.0051 |
| Germany | 0.7 | 0.9 | 0.2 | 4.80 | 0.942 | 0.0000 |
| Greece | 1.7 | 2.0 | 0.3 | -1.52 | 0.036 | 0.4224 |
| Hungary | 1.7 | 1.7 | 0.0 | 1459 | 0.848 | 0.0000 |
| Iceland | 1.3 | 1.0 | -0.3 | 1453 | 0.966 | 0.0000 |
| Ireland | 1.1 | 2.0 | 0.9 | 10.50 | 0.949 | 0.0000 |
| Italy | 0.9 | 0.9 | 0.0 | 1.53 | 0.543 | 0.0002 |
| Latvia | 1.9 | 2.1 | 0.2 | 6.20 | 0.840 | 0.0000 |
| Lithuania | 0.6 | 0.6 | 0.0 | 1.65 | 0.723 | 0.0000 |
| Luxembourg | 0.6 | 0.9 | 0.3 | 9.70 | 0.782 | 0.0000 |
| Malta | 1.4 | 2.3 | 0.9 | 11.10 | 0.859 | 0.0000 |
| Netherlands | 0.7 | 0.6 | -0.1 | 1.74 | 0.779 | 0.0000 |
| Poland | 1.3 | 0.7 | -0.6 | 4.60 | 0.467 | 0.0009 |
| Portugal | 1.4 | 1.6 | 0.2 | 4.86 | 0.796 | 0.0000 |
| Romania | 0.9 | 1.2 | 0.3 | 18.00 | 0.627 | 0.0000 |
| Slovakia | 0.8 | 1.3 | 0.5 | 4.86 | 0.831 | 0.0000 |
| Slovenia | 0.9 | 1.2 | 0.3 | 4.38 | 0.831 | 0.0000 |
| Sweden | 0.0 | 0.3 | 0.3 | 0.00 | 0.090 | 0.0994 |
| Spain | 1.5 | 1.6 | 0.1 | 4.38 | 0.872 | 0.0000 |

Comment: when calculating the directional coefficient of the trend, education spending was the dependent variable and the year of the survey was the independent variable.

Source: Authors' own calculations, based on (Eurostat, 2023c).

4.3. Clustering of countries by private spending on education

The next section of the study groups countries based on a similar share of educational expenses in total expenses for 27 European households. In this, the Ward method and the k-means method were used.

The results of Ward's hierarchical method made it possible to create four clusters of countries, as the tree was cut at height 16. The left side of the dendrogram contained two clusters of 1 and 9 countries, while the right side created two clusters of 10 and seven elements (Figure 2).

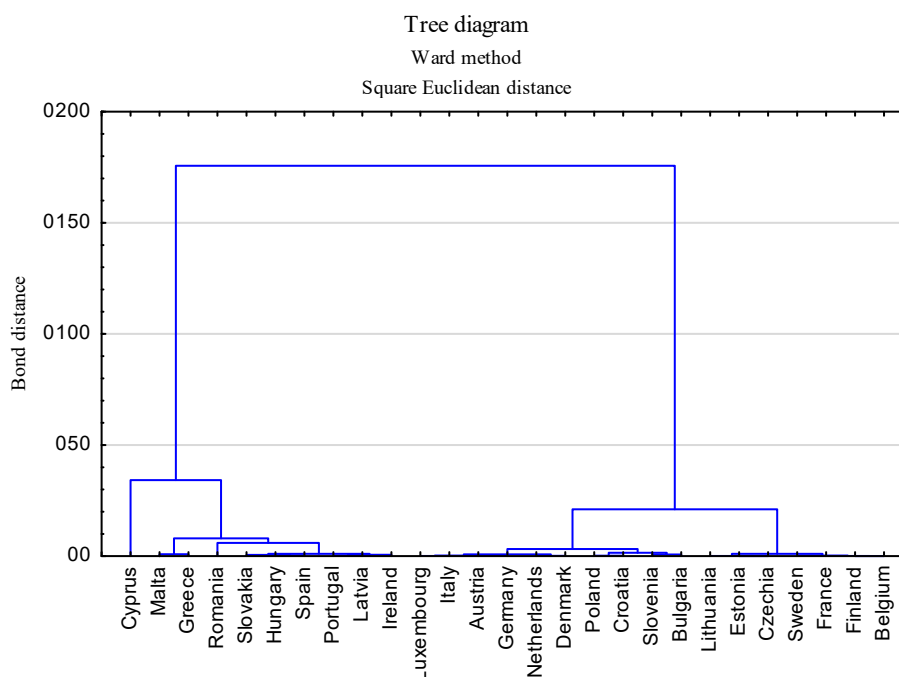


Figure 2. Membership in clusters of European Union countries by share of private spending on education as a result of Ward clustering

Source: Authors' own calculations, based (Eurostat, 2023d).

Cluster I included one country, Cyprus, in which the share of expenditures stood out significantly from the rest of the EU. On average, households in this country spent 3.0% of their income on education between 2011 and 2021. This cluster is characterized by the highest share of educational spending.

Cluster II included: Ireland, Greece, Spain, Latvia, Hungary, Malta, Portugal, Romania and Slovakia, countries with relatively high educational spending. Countries in this cluster on average spent 1.8% of funds on education, Romania and Slovakia spent the least (1.5% on average), while Malta and Greece spent the most at 2.1%.

Cluster III consisted of 7 countries, which included: Belgium, the Czech Republic, Estonia, France, Lithuania, Finland and Sweden. These were the countries with the lowest share of spending on fulfilling educational needs compared to other EU countries, the

average in this cluster was 0.5%. In this group of countries, the lowest value was recorded for Sweden 0.3% with the highest for Estonia 0.6%.

Cluster IV contained the largest number of countries. Included here were: Bulgaria, Denmark, Germany, Croatia, Italy, Luxembourg, the Netherlands, Austria, Poland, and Slovenia. The average share of educational expenditures was 0.9%, and was comparable or higher in each country compared to Cluster III. Netherlands households allocated the smallest percentage of their income to meet educational needs at 0.7%, while Slovenia's households had the highest, allocating an average of 1.2% of income. Poland was also in this group, with private educational spending averaging 1%.

Clustering using the non-hierarchical k-means method resulted in four clusters, similar to Ward's hierarchical method. The results are similar, however, one country that was assigned to a different cluster is the Netherlands. In the Ward method, it was placed in the group of countries allocating a higher percentage of their income to education, while in the k-means method it was placed in the group of countries with a lower share of this spending category. In the author's opinion, the better assignment of the Netherlands came from the Ward method. In this method, the assignment of countries to clusters was as follows:

- I cluster – Cyprus,
- II cluster – Ireland, Greece, Spain, Latvia, Hungary, Malta, Portugal, Romania, Slovakia,
- III cluster – Belgium, Czech Republic, Estonia, France, Lithuania, Finland, Sweden, Netherlands,
- IV cluster – Bulgaria, Denmark, Germany, Croatia, Italy, Luxembourg, Austria, Poland, Slovenia.

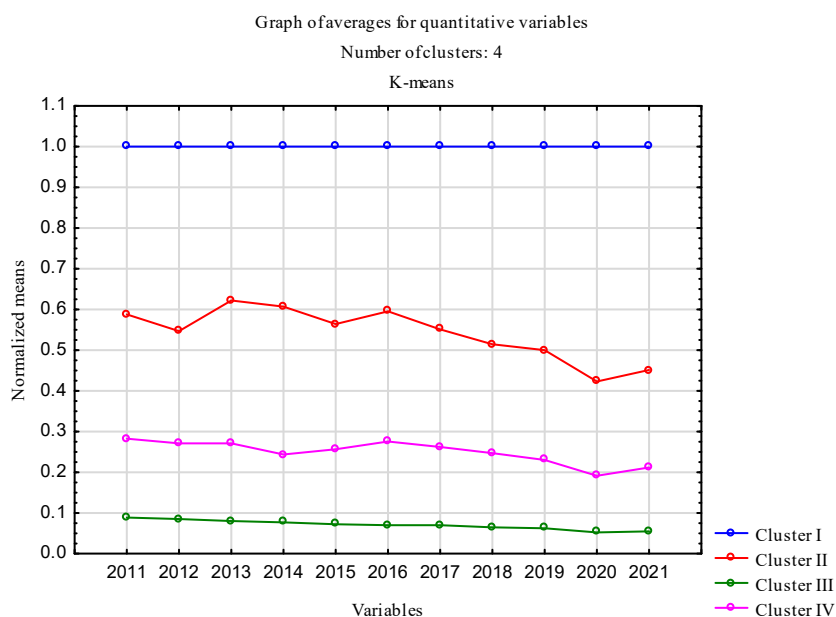


Figure 3. Membership of clusters of European Union countries by share of private spending on education as a result of the k-means method

Source: Authors' own calculations, based on (Eurostat, 2023d).

For the division of the community into four groups, the value of the silhouette index was 0.7, which indicates a correct grouping structure (Błażejczyk-Majka, 2018).

4.4. Identification of European household types by education expenditure structure

The study aimed to analyze and categorize European countries based on the structure of household education spending. The focus was on identifying similarities and differences in spending patterns across selected countries. The analysis considered categories such as pre-primary and primary education, secondary education, post-secondary non-tertiary education, tertiary education, and education not definable by level. The clustering method used was Ward's, resulting in the grouping of countries into six clusters. The analysis was limited to EU countries with available data for calculating the structure of education spending.

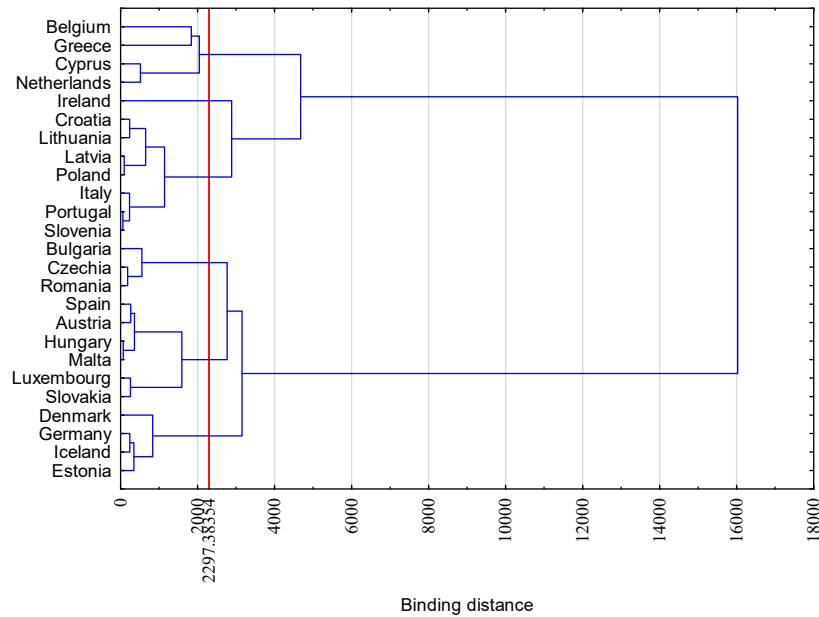


Figure 4. Distribution of European Union countries by structure of private spending on education according to Ward's method

Source: Authors' own calculations, based on (Eurostat, 2023c).

The countries were then divided into six clusters using k-means cluster analysis. The clusters created ranged from 2 to 5 countries.

The share of spending on most education-related categories in European households differed by the country of origin of the household. Thus, the share of expenditures on pre-primary and primary education, secondary education, tertiary education and education not definable by level differed statistically significantly ($p \leq 0.05$) between the distinguished groups (clusters) of countries.

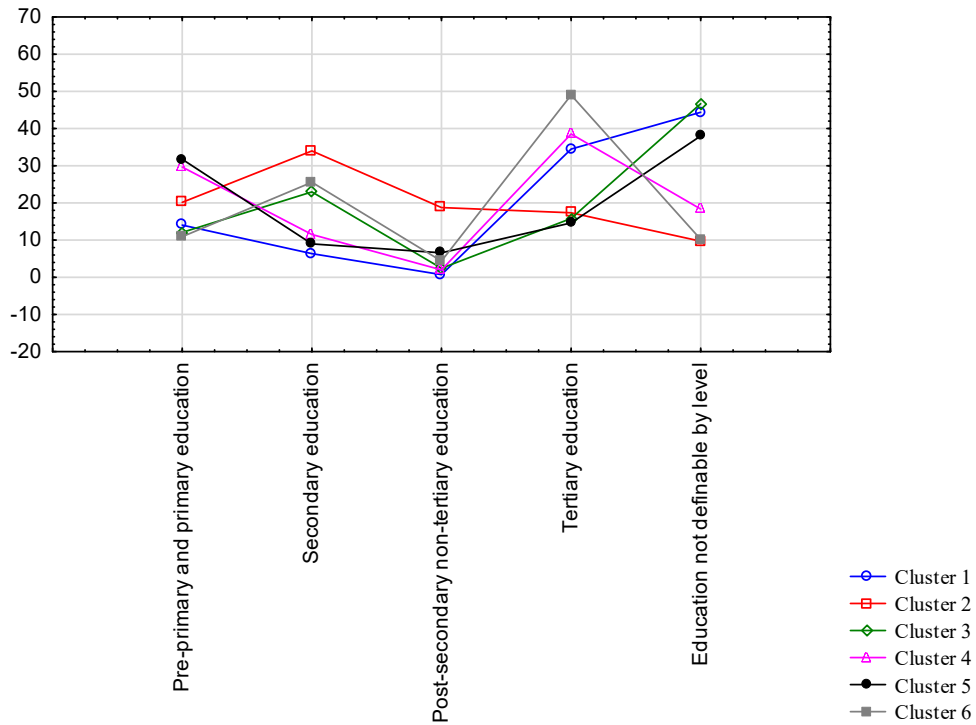


Figure 5. Membership of clusters of European Union countries by the structure of private spending on education as a result of the k-means method

Source: Authors' own calculations, based on (Eurostat, 2023c).

Table 3. Results of analysis of variance for clustering of European Union countries by share of private spending on education using the k-means method.

| Specification | Intergroup SS | df | Intra-object SS | df | F | Significance p |
|---------------------------------------|---------------|-----|-----------------|------|------|----------------|
| Pre-primary and primary education | 1877.3 | 5.0 | 740.4 | 19.0 | 9.6 | 0.0001 |
| Secondary education | 1979.9 | 5.0 | 1321.3 | 19.0 | 5.7 | 0.0023 |
| Post-secondary non-tertiary education | 533.5 | 5.0 | 841.5 | 19.0 | 2.4 | 0.0748 |
| Tertiary education | 4524.4 | 5.0 | 1702.0 | 19.0 | 10.1 | 0.0001 |
| Education not definable by level | 5919.1 | 5.0 | 1092.0 | 19.0 | 20.6 | 0.0000 |

Source: Authors' own calculations, based on (Eurostat, 2023c).

Clusters one and two differed significantly in the distribution of spending on different levels of education. Cluster one (Bulgaria, Czech Republic, Spain, Romania) had the lowest share of spending on secondary and post-secondary non-tertiary education, while cluster two (Belgium, Greece) had the highest share in these categories. Notably, Spain and Romania exhibited similarities in both the level and structure of household education spending, placing them in the same clusters in both groupings.

Cluster three (Luxembourg, Hungary, Malta, Austria, Slovakia) showed a relatively low share of spending on tertiary education and the highest share on education not definable by level. Luxembourg and Austria shared similarities in both the level and structure of education spending.

Cluster four (Croatia, Italy, Lithuania, Portugal, Slovenia) was characterized by relatively high percentages of spending on pre-primary and primary education. Croatia, Italy, and Slovenia were grouped together in both share and structure of education spending.

Cluster five (Denmark, Germany, Estonia, Iceland) had the highest percentage of spending on pre-primary and primary education among all clusters and the lowest on tertiary education. Denmark and Germany shared clusters in both share and structure of private spending on education.

The last cluster (Ireland, Cyprus, Latvia, Netherlands, Poland) had the lowest percentage of spending on pre-primary and primary education and almost the lowest on education not definable by level. However, it had the highest spending on tertiary education. Ireland and Latvia shared a cluster in terms of the share of household spending on education.

Table 4. Consumption patterns of educational services by country groups

| k-means | Number of countries in the cluster | Pre-primary and primary education | Secondary education | Post-secondary tertiary education | Tertiary education | Education not definable by level |
|---------|------------------------------------|-----------------------------------|---------------------|-----------------------------------|--------------------|----------------------------------|
| 1 | 4 | 14.05 | 6.38 | 0.70 | 34.47 | 44.40 |
| 2 | 2 | 20.15 | 34.00 | 18.75 | 17.35 | 9.70 |
| 3 | 5 | 12.08 | 22.96 | 2.44 | 15.82 | 46.70 |
| 4 | 5 | 29.64 | 11.50 | 2.00 | 38.54 | 18.36 |
| 5 | 4 | 31.75 | 9.00 | 6.57 | 14.62 | 38.03 |
| 6 | 5 | 10.92 | 25.56 | 4.36 | 49.02 | 10.20 |
| Overall | - | 19.47 | 17.18 | 4.42 | 29.92 | 29.02 |

Source: Authors' own calculations, based on (Eurostat, 2023c).

4.5. Education spending versus characteristics of Polish households

Polish households spend a smaller percentage of their income on education than the average household in the European Union. Based on data from the 2021 household budget survey, published by the Central Statistical Office, a comparison of educational expenses in Poland in various households was made:

- by socio-economic groups,
- by quintile groups
- by class of place of residence.

First, the monthly per capita education expenditure by socioeconomic group was analyzed. As can be seen from Figure 6, the highest level and share of educational spending is characterized by the households of the self-employed. In 2021, they allocated PLN 35.07 for this purpose, which accounted for 2.4% of their spending. Another group that incurred quite high educational expenses are workers in non-manual positions, who spent PLN 25.29 per person per month, or 1.7% of the total expenditure. Groups with the lowest level and at the same time share of this category of expenses include farmers – PLN 3.22, and retirees and pensioners – PLN 1.48 per person.

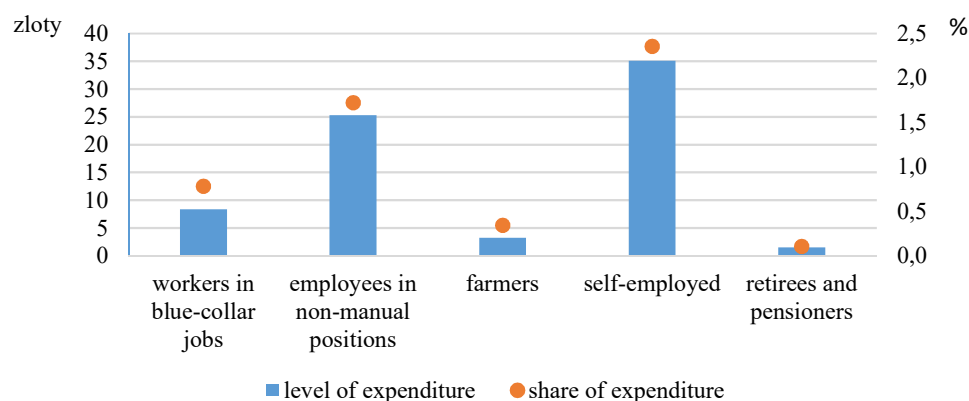


Figure 6. Monthly expenditure on education per person in households by socio-economic groups in 2021

Source: Authors' own study, based on (Główny Urząd Statystyczny, 2022).

Based on the amount of disposable income and expenses, households are assigned to appropriate quintile groups. There are five such groups. The designation "I" is assigned to households with the lowest income, while the number "V" is assigned to groups with the highest income (Central Statistical Office, 2011). The quintile group is another variable that differentiates the level and share of household expenditure on education. It was noted that the level of the mentioned category of expenses is the lowest for the II quintile group - PLN 8.67 per person, which constituted 0.9% of the expenses, while the highest level and share were observed in households belonging to the V quintile group – 29.91 PLN, 1.4% of the total value (Figure 7). Group V includes 20% of people with the highest income.

Another variable that differentiates education expenditure is the class of place of residence. As the class of place of residence decreased, there was a decline in education expenditure. Households from cities with over 500,000 inhabitants in 2021 spent an average of PLN 41.46 per person per month, which constituted 2.35% of the total expenditure. In cities below 20 thousand inhabitants, much lower educational expenses were observed, which per person amounted to PLN 11.06 (0.87% of total expenses), while the lowest, at the level of PLN 7.45, was recorded in villages, which constituted 0.67% of total expenses (Figure 8).

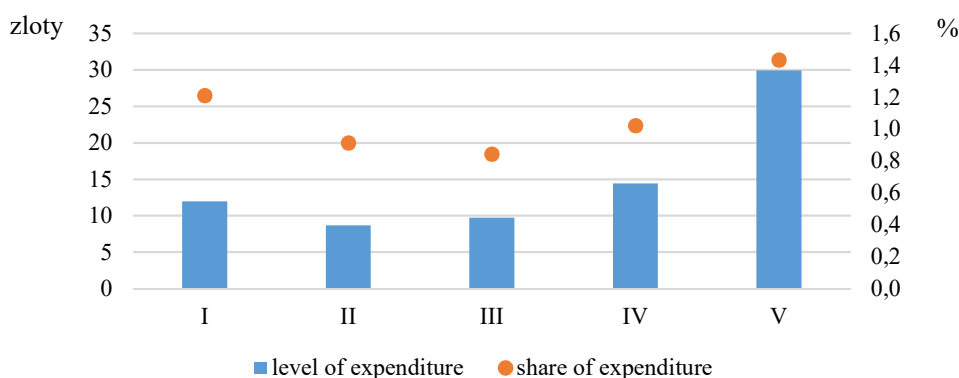


Figure 7. Monthly education expenditure per person in households by quintile groups in 2021
Source: Authors' own study, based on: (Główny Urząd Statystyczny, 2022).

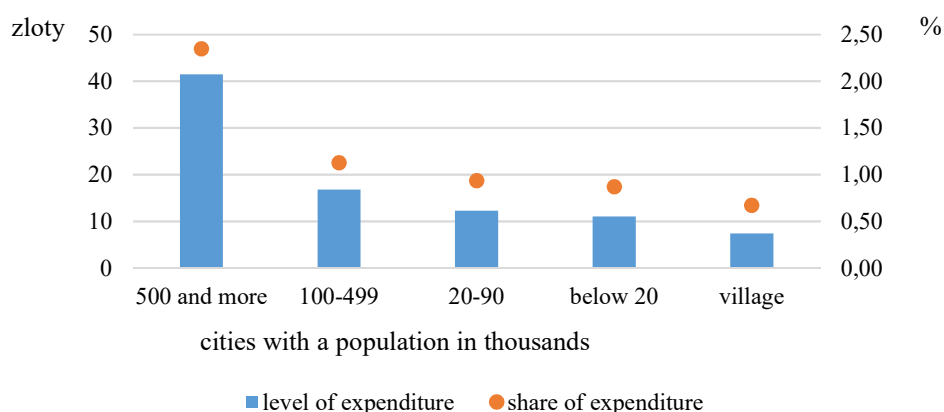


Figure 8. Monthly education expenses per person in households by class of place of residence in 2021

Source: Authors' own study, based on (Główny Urząd Statystyczny, 2022).

5. DISCUSSION OF THE RESULTS

The results of the analysis of the share of private spending on education in European Union countries in 2021 show significant differences between countries, which is an important area of interest for educational policy and socio-economic comparative research. The greatest differences in private spending on education were observed between Cypriots and Swedes. Sweden had the lowest level of private education expenditure (0.3% of education expenditure) and Cyprus had the highest level (3.5% of consumption expenditure compared to the EU average of 0.9%). Low household expenditure on education in Sweden can be attributed to the high share of public expenditure (6.6% of GDP) on education, as this expenditure may, to some extent, eliminate the need for significant private expenditure. It is worth noting, that in Cyprus, compared to other European countries, public expenditure on education is also not low, as it amounts to 5.5% of GDP (Eurostat, 2023b). The high share of private spending in Southern European countries, including Cyprus, has

been emphasized for many years (Bray, 2011). A 2003 survey of over 1,100 college students in Cyprus found that 86.4% had received private tutoring in high school (Stylianou, Savva, Vraka, Serghiou, 2004). Meanwhile, a household survey conducted in 2008 (Cyprus, 2010) found that tutoring accounted for 52.9% of Cypriot household expenditure on secondary education. However, when it comes to Northern Europe, including Sweden, these countries maintain strong traditions of schools that adequately meet the needs of students. Students in Scandinavia receive additional lessons, both to support slow learners and to extend the learning process of high achievers. However, much of this work occurs within public education (Bray, 2011).

In the European context, Poland shows a moderate level of private spending on education (0.7%), being below the EU average (0.9%). The aforementioned expenses in Poland are lower than the EU average by 0.2 pp. This suggests that Polish households are less burdened by education costs compared to some EU countries. However, changes in spending over time indicate that Poland is seeing a decline in the share of private spending on education. Already in a study (Piekut, 2016) conducted on data for 2000-2014, a successive decrease in the share of education spending in consumption expenditures was visible, as well as a stabilization of the level of this category of goods.

An analysis of changes in the share of education spending between 2002 and 2021 shows that most countries increased the spending in question, with the largest increase in Cyprus. On the one hand, it is pointed out that it is the policy of each government to ensure equal access to quality education for all students regardless of gender, background, socioeconomic or cultural status, i.e. it must not prevent them from developing their knowledge and skills to their full potential (Angelov, 2019), but on the other hand, there is an increasing private financing of education. The results of a study conducted in Russia showed that private tutoring services are in high demand and the reasons for this are the insufficient level of public/private education acquired and the inconsistency of the knowledge acquired with the requirements of the national and international labor market (Glotova, Samoylenko, Zharko, Georgiadi, Shevchenko, 2023). It is pointed out that private education in the form of tutoring can have a double impact on individuals, as well as on the nation. On the one hand, the opportunity for students to participate in supplementary education leads to an increase in the level of knowledge and can, in the long run, contribute to economic and social growth in the country. On the other hand, the risk may be that increased supplementary education opportunities will contribute to undue pressure on individual students and greater social disparities in society (Zhang, Bray, 2017).

Of great importance for education spending was the COVID-19 pandemic. The COVID-19 pandemic caused a crisis in education systems, including the Polish system, especially in terms of the quality of educational services provided. The main cause of this crisis was technological lag within the traditional process of formal education. The need for physical social isolation forced rapid adaptation to new conditions, which was manifested in the transfer of important areas of daily life, including education and the economy, to the online world (Świątek, 2022). The year 2020, associated with the COVID-19 pandemic, showed the largest deviation in education spending from the average. Between 2019 and 2020, education spending decreased (Korzeniowska, 2023).

The method of grouping countries allowed the creation of clusters of countries, showing similarities and differences in approaches to the private payment of educational goods. The clusters differ in both the level of spending and the structure of spending on different levels of education, which may be due to national education systems and socioeconomic policies.

Poland, by share of spending, was placed with selected countries from Western Europe and Southeastern Europe, while in clustering by spending structure Poland was placed in a cluster with Ireland, the Netherlands, Cyprus and Latvia. An earlier study (Piekut, 2014) on the similarity of the level and share of private spending on education among European countries found that Poland showed the greatest similarity with other Central and Eastern European countries, such as Hungary, Lithuania, Latvia, Estonia, Slovakia, the Czech Republic, Romania and Bulgaria. These countries had the lowest level of private spending on education in 2011 compared to other European Union countries, but also had the highest growth between 1995 and 2011.

The analysis made it possible to determine the characteristics of households determining the amount of private spending on education. It was found that the largest share of education expenditures was spent by the self-employed, the wealthiest and those from metropolitan centers. Households of pensioners, those belonging to the second quintile group and residents of rural areas were characterized by the lowest share of educational expenditures. Research on the relationship of household characteristics conducted in India shows that students whose parents are better educated and those living in urban households with higher per capita expenditures are more likely to use private tutoring, which is included in private educational expenditures (Azam, 2016). German studies similarly indicate that there are correlations between the amount of private education spending and household income and parental education (Schroeder, Spieß, Storck, 2015). In contrast, when it comes to Cypriot households, in addition to household income, parental education, labor force status and the number of children attending school, region of residence and the age of the household head are also important determinants of the level of private education spending (Andreou, 2012).

6. SUMMARY

There are significant disparities in private household spending in EU member states. However, this is related to various phenomena, including depending on the level of public funding for education. In the future, however, it would be useful to analyze how these expenditures have changed over the years and determine whether these disparities are widening.

On the basis of the analysis, it can be concluded that there were significant disparities among EU countries in the share of private education spending in total consumption spending. Cypriot households spent the largest share of their disposable income on education, while Swedish households spent the smallest share. Sweden, where the share of public spending on education is high, could be an inspiration for countries that want to focus on public funding. The balancing act between public and private funding is worth considering.

An analysis of private education spending by household socioeconomic variables, such as employment status, income, and place of residence, shows that the households of the self-employed, the wealthiest and those living in the largest cities have the highest education costs, while retirees and farmers and poorer people show lower spending.

In Poland, despite the operation of public funding for education, private spending on education plays an important role in the development of human capital. Analysis of this category of spending reveals which types of households in Poland allocate the lowest level of their resources to acquiring education. This study brings value to the field of economics. It outlines what should come to the attention of governing bodies, as it is possible that due

to low private educational spending in the groups with the lowest levels of spending, there is limited access to acquiring education and greater educational inequalities emerge. Policymakers should take steps to ensure equal access to education for all social groups. Financial support programs for lower-income families can be an effective tool.

The results suggest the need for a balanced approach to education financing, taking into account both public and private resources. Differences between countries may result from different educational models, social policies and access to public funds.

REFERENCES

- Andreou, S.N. (2012). *Analysis of household expenditure on education in Cyprus*. "Cyprus Economic Policy Review", 6(2).
- Angelov, A. (2019). *Public expenditure on education in the EU member states: a cluster analysis*. "Народностопанску архив", 1.
- Azam, M. (2016). *Private tutoring: evidence from India*. "Review of Development Economics", 20(4).
- Bergan, S., Deca, L. (2018). *Twenty years of Bologna and a decade of EHEA: What is next?. "European higher education area: The impact of past and future policies"*.
- Bray, T.M. (2011). *The challenge of shadow education Private tutoring and its implications for policy makers in the European Union*. European Commission.
- Brożek, K., Poteralska, B., Łabędzka, J. (2022). *Analiza kapitału ludzkiego w kontekście innowacyjności gospodarek V4 i UE-27*. „Zeszyty Naukowe Politechniki Częstochowskiej”.
- Bywalec, C. (2010). *Konsumpcja a rozwój gospodarczy i społeczny*. Warszawa: CH Beck.
- Corradi, S. (2015). *Student Mobility in Higher Education: Erasmus and Erasmus Plus*. Laboratory of Lifelong Learning, Department of Education and Training, Roma Tre State University.
- Cyprus, Ministry of Education and Culture (2010). *Private Expenditure on Education by Type of Educational Institution and Level of Education, 2008* [Table 120 in Statistical Tables]. Nicosia: Ministry of Education and Culture.
- Dean, S.N., Elliott, S. (2022). *Urgency, Equity, and Agency: An Assemblage of Global Concerns and Interests in Early Childhood Education for Sustainability*. "International Journal of Early Childhood Environmental Education", 9(2).
- Díaz-Méndez, M., Gummesson, E. (2012). *Value co-creation and University teaching quality: consequences for the European higher education area (EHEA)*. "Journal of Service Management", 23(4).
- Eurostat (2023a). *Annual national accounts (nama10)*. Eurostat metadata [Access: 18.10.2023]. Access on the internet: https://ec.europa.eu/eurostat/cache/metadata/en/nama10_esms.htm.
- (2023b). *General government expenditure by function (COFOG)* [gov_10a_exp_custom_8008323]. Eurostat database [Access: 22.10.2023]. Access on the internet: https://ec.europa.eu/eurostat/databrowser/view/gov_10a_exp_custom_8008323/default/table?lang=en.
- (2023c). *Final consumption expenditure of households by consumption purpose (COICOP 3 digit)* [Access: 18.10.2023]. Access on the internet: https://ec.europa.eu/eurostat/databrowser/view/NAMA_10_CO3_P3_custom_7098388/default/table?lang=en.

- (2023d). *Final consumption expenditure of households by consumption purpose (COICOP 3 digit)* [access: 29.10.2023]. Access on the internet: https://ec.europa.eu/eurostat/databrowser/view/NAMA_10_CO3_P3_custom_7098388/default/table?lang=en.
- Glотова, A., Samoilenko, N., Zharko, L., Georgiadi, A., Shevchenko, M. (2023). *Shadow education: Shapes of private tutoring in e-learning environment*. "E-Learning and Digital Media", 20(4).
- Główny Urząd Statystyczny (2011). *Metodologia badania budżetów gospodarstw domowych, Departament Warunków Życia*. Warszawa.
- Główny Urząd Statystyczny (2022). *Budżety gospodarstw domowych w 2021 r.* Warszawa.
- Hoedl, E. (2011). *Strategia Europa 2020 i Europejska Odbudowa*. „Problemy Ekorożwoju”, 6(2).
- Kaufman, L., Rousseeuw, P.J. (2009). *Finding groups in data: an introduction to cluster analysis*. John Wiley & Sons [in] Błazejczyk-Majka, L. (2018). *Zastosowanie analizy skupień w przypadku zmiennych wyrażonych na skali porządkowej*.
- Komisja Europejska, Eurydice (2023a). *Finansowanie wczesnej edukacji i opieki (ECEC) oraz edukacji szkolnej* [Access: 16.09.2023]. Access on the internet: <https://eurydice.eacea.ec.europa.eu/pl/national-education-systems/poland/finansowanie-wczesnej-edukacji-i-opieki-ecec-oraz-edukacji>.
- (2023b). *Systemy edukacji w Europie – Cypr* [Access: 16.09.2023]. Access on the internet: <https://eurydice.org.pl/systemy-edukacji-w-europie/cypr>.
- (2023c). *Systemy edukacji w Europie – Szwecja* [Access: 16.09.2023]. Access on the internet: <https://eurydice.org.pl/systemy-edukacji-w-europie/szwecja>.
- Korzeniowska, A.M., Rutecka-Góra, J., Swach-Lech, M., Waliszewski, K. (2023). *Wpływ pandemii Covid-19 na finanse osobiste*. Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
- Kula, E., Pękowska, M. (2022). *Kształcenie całożyciowe w perspektywie Europejskiego programu na rzecz umiejętności*. „Edukacja Dorosłych”, 87(2).
- Luszniewicz, A., Słaby, T. (2008). *Statystyka z pakietem komputerowym STATISTICA PL: teoria i zastosowania*. Warszawa: CH Beck.
- Major, M., Niezgodna, J. (2003). *Elementy statystyki*. Część I: *Statystyka opisowa*, Kraków: Oficyna Wydawnicza AFM.
- Michelsen, G., Wells, P. J. (2017). *A Decade of progress on education for sustainable development: reflections from the UNESCO Chairs Programme*. UNESCO Publishing.
- Migdał-Najman, K., Najman, K. (2013). *Analiza porównawcza wybranych metod analizy skupień w grupowaniu jednostek o złożonej strukturze grupowej*. „Zarządzanie i finanse”, 11(3, cz. 2).
- Pasimeni, F., Pasimeni, P. (2016). *An institutional analysis of the Europe 2020 strategy*. “Social Indicators Research”, 127.
- Piekut, M. (2014). *Nierówności w wydatkach na edukację w europejskich gospodarstwach domowych. Nierówności społeczne a wzrost gospodarczy*. „Rzeszów: Social Inequalities and Economic Growth”, 39.
- (2016). *Obciążenia budżetów domowych wydatkami na edukację*. „Konsumpcja i Rozwój”, 3(16).
- Pietrzykowski, R., Kobus, P. (2006). *Zastosowanie modyfikacji metody k-średnich w analizie portfelowej*. „Ekonomika i Organizacja Gospodarki Żywnościowej”, 60.

- Prus, B., Król, K. (2017). *Ocena zastosowania wybranych metod taksonomicznych do klasyfikacji zjawisk społeczno-gospodarczych*. „Acta Scientiarum Polonorum: Formio Circumiecus”, 16(2).
- Schroeder, C., Spieß, C.K., Storck, J. (2015). *Private spending on children's education: low-income families pay relatively more*. “DIW Economic Bulletin”, 5(8).
- Southgate, D. (2009). *Determinants of Shadow Education: A Cross-National Analysis*. PhD dissertation. USA: The Ohio State University.
- Stylianou, V., Savva, A., Vraka, M., Serghiou, A. (2004). *Information and Communication Technology: First-Aid to the Private Tutoring Problem?*. “Information and communication technology”.
- Sztanderska, U., ed. (2013). *Koszty edukacji od przedszkola do gimnazjum*. Warszawa: Instytut Badań Edukacyjnych.
- Świątek, A. (2022). *Usługi edukacyjne w Polsce w dobie pandemii COVID-19*. „Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego”, 36(2).
- United Nations (2018). *Classification of individual consumption according to purpose (COICOP) 2018*. “Statistical Papers. Department of Economic and Social Affairs. Statistics Division”, 265.
- Wagenaar, R. (2019). *A History of ECTS, 1989–2019: Developing a World Standard for Credit Transfer and Accumulation in Higher Education*. International Tuning Academy, 17, Dec. 2019.
- Wesoła, B. (2022). *Edukacja w czasach pandemii koronawirusa w Europie i na świecie. Nauka zdalna ostatecznością. W szkołach reżim sanitarny na różnym poziomie* [Access: 22.10.2023]. Access on the internet: <https://strefaedukacji.pl/edukacja-w-czasach-pandemii-koronawirusa-w-europie-i-na-swiecie-nauka-zdalna-ostatecznoscia-w-szkolach-rezim-sanitarny-na/ar/c5-16012997>.
- Wołyński, W., Górecki, T. (2013). *Analiza skupień*. Poznań: Wydział Matematyki i Informatyki UAM.
- Vare, P., Lousselet, N., Rieckmann, M. (2022). *Competences in Education for Sustainable Development*. Springer International Publishing.
- Violano, A., Sotiropoulou, A., Triantis, E. (2018). *Teaching and research: the erasmus plus experience* [In:] *INTED2018 Proceedings*, IATED Academy.
- Zafar, M.W., Shahbaz, M., Sinha, A., Sengupta, T., Qin, Q. (2020). *How renewable energy consumption contribute to environmental quality? The role of education in OECD countries*. “Journal of Cleaner Production”, 268.
- Zhang, W., Bray, M. (2017). *Micro-neoliberalism in China: Public-private Interactions at the Confluence of Mainstream and Shadow Education*. “Journal of Education Policy”, 32(1).

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INSTITUTIONAL ANALYSIS OF THE RECOMMENDATION Z FROM THE POLISH FINANCIAL SUPERVISION AUTHORITY ON THE PRINCIPLES OF INTERNAL GOVERNANCE IN BANKS

Corporate governance, which includes, among others, the bank management system, bank organization, and mutual relations of people performing key functions in the bank, after the global financial crisis of 2007, became one of the leading aspects in which banks, as well as national microprudential supervisory authorities, must pay special attention to. This paper aims to present the results of the institutional analysis of the recommendation of the Polish Financial Supervision Authority regarding internal governance in banks, carried out using a normative set method. Thanks to the application of this research method, the sources of the titular recommendation, its administrators, main beneficiaries, and maleficences are determined, and the selected resulting action plan regarding the policy of approving new banking products is reconstructed. The article also contains conclusions resulting from the application of the normative set method to the interpretation of regulations classified as *soft law*.

Keywords: Recommendation Z, internal governance in banks, normative set, risk management.

1. INTRODUCTION

The global financial crisis of 2007 questioned the rationality of financial institutions and the effectiveness of "private" management of the risks they generated, as well as the then dominant model of micro-prudential supervision exercised by public institutions. This supervision, focusing on the stability of individual entities, did not take due account of their external connections and "failed to notice" the effects of the progressing phenomenon of financialization. It also did not interfere too thoroughly with the internal risk management models of these entities and their corporate governance, which favors the phenomenon of the so-called *moral hazard* (Baker, 1996; Dembinski, 2017; Epstein [ed.], 2006; J. Monkiewicz, M. Monkiewicz, 2019). It was believed that increasing administrative and legal activities on the part of the state would violate the property rights of financial institutions or, more broadly, the freedom to conduct business activity and the bank

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management system. The post-crisis Basel Consensus (Kaszubski, 2006) adopted assumptions different from the above, i.e. that the financial market is generally pro-cyclical and unstable, and that this instability is deepened by the complexity of financial systems and innovative financial services (Baker, 2013). In this context, new anti-crisis strategies and solutions were based, among others, on increasing the role of the state in the security of the financial sector through the implementation of an institutional framework for macroprudential supervision of financial markets, an assessment of corporate governance and internal risk management systems of financial institutions by the competent state authorities. In addition, the creation of multi-level regulatory systems based on a new regulatory and supervisory paradigm has begun. It uses not only the provisions of generally applicable law, but also the so-called soft regulatory instruments (e.g. recommendations, opinions, guidelines classified as *soft law*) (Nieborak, 2016). One of such instruments are recommendations of microprudential supervision authorities addressed to the banking sector.

In the Polish legal system, pursuant to Art. 137 section 1 point 5 of the Banking Act, the competence to issue them rests with the Polish Financial Supervision Authority (PFSA). A list of recommendations addressed to the banking sector, marked with letters of the alphabet, is available on the PFSA website (PFSA, 2024). From the perspective of legal forms of administration activity, the recommendations are perceived as non-normative and non-imperative means of influencing the PFSA on banks. In addition, they are also included in the category of the so-called *soft law* (Czech, 2009, 2013; Ofiarski, 2017; Ofiarski, 2013; Olszak, 2010, 2016) although the legal nature of these regulations is still the subject of analysis in the literature (Czech, 2009; Maśniak, 2016).

Despite the location of Art. 137 section 1 point 5 in Chapter 11 of the Banking Law entitled "Banking supervision" doubts regarding the legal nature of the recommendations themselves have not been resolved. It is currently undisputed that the subjectively and objectively closed catalog of sources of generally applicable law (Article 87 of the Constitution) does not include the regulations in question. The opinion still prevails in the literature that due to the material and structural independence of banks from the Polish Financial Supervision Authority, it is difficult to consider these entities as functionally subordinated to the supervisory authority and, consequently, to accept the thesis that the recommendations applicable to them are acts of internal law.

Prudential standards resulting from the recommendations, due to the lack of the so-called formal sanctions, do not have binding force on their addressees, and, therefore, banks may use practices different from those suggested, provided that they allow them to achieve the same goal, i.e. prudently and stably manage the banking enterprise. Although the Polish Financial Supervision Authority does not use state coercion to enforce the application of the standards of conduct and good practices it recommends, it may be guided by them when making a supervisory assessment of banks in terms of their prudent and stable management (Czech, 2009; Olszak, 2011; Smykla, 2011). Therefore, it seems justified to say that this is a kind of "indirect" way of enforcing recommendations under the so-called follow-up supervision.

Recommendations addressed to banks in terms of the method of their development, form (including division and arrangement of content) and the effects they have are similar to normative acts classified as sources of generally applicable law. In this context, the question arises whether, due to the mentioned similarity, it is possible to apply methods to their interpretation such as in the case of, among others, set, and if so, what will be their results.

The aim of this paper is an institutional analysis of Recommendation Z adopted by the Polish Financial Supervision Authority on October 9, 2020 which defines the principles of internal governance in banks. It was carried out using the normative set method, which allowed determining the sources of this recommendation, its administrators, main beneficiaries and malefices, and to reconstruct the selected scheme of action resulting from it. Moreover, conclusions resulting from the application of the normative set method to the interpretation of regulations classified as *soft law* are presented.

2. METHODOLOGY

As a rule, the research method of the normative set is used to interpret legal provisions and takes into account all functional connections of the tested standards and all available sources of information. It is also used to determine the actual or potential socio-economic effects of the tested solutions. The normative set itself is understood as a blueprint for the actions of a manager. This scheme is based on legal standards and involves the participation of various people and entities that differently influence the shape of individual elements of the scheme at subsequent stages of its creation and operation (Chmielnicki, 2015, 2014).

The research method consists of several stages, which, apart from selecting the subject of research (normative act), collecting data regarding it and an institutional analysis of the period before its adoption (stages 1 to 2, respectively), consist in:

- formulating research hypotheses and determining the entities of the action scheme: sources, administrators, beneficiaries and users (including malefices), as well as identifying the benefits and costs related to the implementation of the assumed goal of the action – stage 3,
- reconstruction of connections between formal norms, including the sequence of actions carried out by individual entities established in stage 3, which will lead to the creation of an incomplete action scheme containing only legal solutions – stage 4, and
- reconstruction of connections between formal norms and non-formalized norms, whose results supplement the incomplete action scheme from stage 4 with informal solutions relating to the regulation in question, which will ultimately lead to the creation of a full action scheme (normative set) – stage 5,
- verification of research hypotheses – stage 6,
- an assessment of the nature of the pressure on the formalization of the examined institution and the socio-economic effects of its impact – stage 7,
- forecasting and formulating recommendations – stage 8 (Chmielnicki, 2020).

So far, the normative set method has been used to interpret the provisions of laws and reconstruct the resulting action patterns (Jankowska-Prochot, 2018; Grotkowska, 2018; Kaczmarek, Kudela, 2018; Iwaniec, 2018; Krzëpa-Dedo, Gemzik-Salwach, 2018; Źelasko-Makowska, Sołtysiak, 2016). However, it seems that there are no formal obstacles to use it also for the institutional analysis of regulations classified as *soft law* and created by public administration bodies. For this reason, it was decided to use a set of norms to interpret the provisions of Recommendation Z whose content is consistent with the post-crisis Basel Consensus, as well as the regulatory and supervisory paradigm based on it. It should be noted that the studies devoted to the recommendations of the Polish Financial Supervision Authority, including recommendation entities that may be affected by the recommended prudential standards (Cichy 2020; Fedorowicz, 2021; Nadolska, 2021). Previous studies

on the PFSA's recommendations addressed to the banking sector have not used the normative set method.

The systematics of this paper's content was subordinated to the individual research stages indicated earlier as part of the normative set method.

3. THE LEGAL STATUS AND THE STATE OF SOCIO-ECONOMIC RELATIONS BEFORE THE ADOPTION OF RECOMMENDATION Z ON THE PRINCIPLES OF INTERNAL GOVERNANCE IN BANKS

One of the causes of the *subprime* credit market crisis in the United States in 2007 was, among others, *moral hazard* for members of bank management bodies and the simultaneous lack of effective supervision in this area by public administration bodies. The post-crisis Basel Consensus sees the remedy for limiting the scale of this phenomenon in increasing state interference in the internal order and monitoring of internal risk management procedures of financial institutions (J. Monkiewicz, M. Monkiewicz, 2019).

In response to these expectations, on June 26, 2013, the European Parliament and the Council adopted a directive on the conditions for the admission of credit institutions to the business and the prudential supervision of credit institutions, the so-called CRD IV directive.

In recital 53 of that directive, the attention of Member States was drawn to the fact that, *inter alia*,

[...] Weaknesses in corporate governance in a number of institutions have contributed to excessive risk-taking in the banking sector without due caution, leading to the failure of individual institutions and systemic problems in Member States and globally. The very general provisions on the governance of institutions and the non-binding nature of much of the corporate governance legislation, based essentially on voluntary codes of conduct, did not sufficiently facilitate the effective implementation by institutions of sound corporate governance practices [...].

Recital 54 of the CRD IV Directive states that

In order to eliminate the potentially harmful impact of poorly designed corporate governance mechanisms on sound risk management, Member States should introduce principles and standards to ensure effective supervision by the management body and disseminate an appropriate approach to risk-taking at all levels of credit institutions and investment firms, and enabling competent authorities to monitor the adequacy of internal management arrangements. These principles and standards should apply taking into account the nature, scale and complexity of the institution's activities.

The directive also emphasizes the importance of *suitability* of management bodies members by imposing obligations on national microprudential supervision to verify the primary and secondary assessment of this suitability.

While implementing the provisions of the directive, the Polish legislator, on November 1, 2015, amended the provisions of the Banking Law: Art. 22 section 2, art. 22a section 1 and 2, art. 22aa and art. 22d. One also pays special attention to art. 22aa and 22d of Banking Law regarding requirements for the bodies of members of a bank, a financial holding

company and a mixed financial holding company. Pursuant to art. 22aa section 1 of Banking Law members of the management board and supervisory board of the bank should have knowledge, skills and experience appropriate to the functions they perform and the duties entrusted to them, and provide a guarantee of proper performance of these duties. This warranty in this case refers in particular to the reputation, honesty and reliability of a given person and to his or her ability to run the bank's affairs in a prudent and stable manner. Members of the bank's statutory bodies should meet suitability requirements throughout the entire period of performing their functions, and not only at the time of appointment (Tymczyszyn, Wajda, 2022).

It is worth noting the distinction made by the legislator regarding the individual qualification requirements of a candidate for a management board member and the collective qualification requirements. Efficient functioning of the bank's management board and counteracting the so-called "herd thinking" syndrome is to be fostered by selecting people with diverse competences and knowledge (Wajda, 2018; Stefanicki, 2018).

European Banking Authority (EBA) in order to practically clarify the requirements resulting, among others, from the CRD IV directive, developed, among others, two documents: "Guidelines on internal governance EBA/GL/2017/11 of 21 March 2018" and "Guidelines on the assessment of the liability of members of the management body and key function holders EBA/GL/2017/12 of 21 March 2018" useful for national supervisory authorities. The second document shows that the assessment of the criterion of individual and collective suitability of members of the bank's management body should be assessed on a *on-going basis* by the competent authorities (Article 181 of the EBA/GL/2017/12).

The previously mentioned provisions of the Banking Law and the *soft law* guidelines of the EBA combine the pursuit of professionalization of management and supervisory staff in banks in order to strengthen their corporate governance and, in the macroprudential context, ensuring the security of the state's financial system.

At this point, one more regulation should be noted, namely the "Principles of Corporate Governance for supervised institutions" (PCG), unanimously adopted by the Polish Financial Supervision Authority in a resolution of July 22, 2014. The regulatory body intended the PCG to improve the level of corporate governance in financial institutions and increase transparency of their operations, which is intended to contribute to deepening trust in the financial market. This set defines the internal and external relations of supervised institutions, including relations with shareholders and clients, their organization, the functioning of internal supervision and key internal systems and functions, as well as statutory bodies and the principles of their cooperation. Such a wide scope of interference by the Polish Financial Supervision Authority in internal corporate relations in entities supervised using standards classified as *soft law*, but actually "enforced" as part of the supervisory assessment, was the subject of analyzes by representatives of the literature (Adamska, 2014; Marcinkowska, 2014; Romanowski, Weber-Elżanowska, 2016; Romanowski, Zarzycka, 2020).

Recommendation Z regarding internal governance in banks was adopted unanimously by the Polish Financial Supervision Authority on October 9, 2020² and it complements, specifies and develops issues in the field of internal governance in banks, which have already been partially regulated at the national level, among others, in the Banking Law,

² PFSA announcement of October 9, 2020; https://www.knf.gov.pl/komunikacja/komunikaty?articleId=70994&p_id=18.

its implementing acts and documents prepared by the Polish Financial Supervision Authority.

The applicable provisions of the Banking Law do not provide any guidelines on how to prepare the provisions of the recommendation, which is why the Polish Financial Supervision Authority used its own legislative practice in its development, which follows the following scheme:

1. developing draft assumptions and internal arrangements,
2. adoption of assumptions by the Polish Financial Supervision Authority,
3. development of a draft recommendation, internal consultations, development of the project after internal consultations at the Office of the Polish Financial Supervision Authority,
4. external consultations and project development after consultations,
5. presentation of the project at a meeting of the Polish Financial Supervision Authority³.

There are also no statutory regulations regarding the obligation for the Polish Financial Supervision Authority to justify the socio-economic effects⁴ of the recommendations it develops and issues for banks. Nevertheless, in the introductions to these regulations, the Polish Financial Supervision Authority tries to explain the reasons for issuing or amending them, and sometimes also to estimate the impact of the implementation of prudential standards by banks on their business activities⁵.

In the introduction to Recommendation Z, the regulatory authority justified the need to issue it, noting, among other things, that it aims to:

[...] disseminate good practices and counteract the use by banks, within the scope covered by the Recommendation, of incorrect practices that increase the risk of their operations and, consequently, increase the resilience of these institutions to difficult market conditions and thus to increase the stability of the financial sector [...]⁶.

Moreover, it is worth noting that since 2010, the Polish Financial Supervision Authority has been referring in its recommendations to the principle of proportionality – perceived as adapting the adopted solutions to the individual specificity and business profile of the bank – to determine the subjective (universal, cooperative or mortgage banks) and

³ Scheme of work on the draft recommendation of the Polish Financial Supervision Authority described by the Director of the Department of Social Communication of the Office of the Polish Financial Supervision Authority in a letter to the author of July 4, 2019, letter reference: DKS.0128.77.2019.JC.

⁴ Due to the fact that they do not constitute provisions of generally applicable law, draft recommendations are not subject to the guidelines provided for in Art. art. 66 section 1 point 2 and art. 67 of the Entrepreneurs' Law (consolidated text: Journal of Laws of 2024, item 236, as amended), the Polish Financial Supervision Authority does not have to attach to draft assessments of the expected socio-economic effects of the recommendations, including an assessment of their impact on micro, small and medium-sized entrepreneurs and analysis of compliance of the proposed regulations with the provisions of the Entrepreneurs' Law, as well as to be guided by the principles of proportionality and adequacy when developing them.

⁵ See: Introduction to Recommendation S, [nf.gov.pl/knf/pl/komponenty/img/Nowelizacja_Rekomendacja_S_23-07-2020_70340.pdf](https://www.knf.gov.pl/knf/pl/komponenty/img/Nowelizacja_Rekomendacja_S_23-07-2020_70340.pdf), s. 2-9.

⁶ See: Introduction to Recommendation Z, https://www.knf.gov.pl/knf/pl/komponenty/img/Rekomendacja_Z_70998.pdf, s.3.

objective scope of their application by banks⁷. Also in the introduction to Recommendation Z there is a reference to the principle of proportionality⁸.

The Polish Financial Supervision Authority has set a deadline for banks to adapt to the recommendations arising from Recommendation Z on January 1, 2022.

4. RESEARCH HYPOTHESES

In the rest of the paper, the following research hypotheses relating to the content of Recommendation Z will be verified using the mentioned method:

1. the main source of the regulation in question were the guidelines developed by foreign institutions and organizations regarding internal management and the suitability of members of the management body, constituting the so-called functional sources of public banking law,
2. the recommendations resulting from it will standardize the internal functioning of banking authorities, making it easier for the Polish Financial Supervision Authority to perform supervisory activities towards these entities,
3. by implementing recommendations in the field of corporate governance banks will increase the transparency of the activities of statutory bodies and the professionalism of people sitting in them, which will better implement the directive of stable and prudent banking activities, which will additionally increase the stability of the financial sector,
4. adapting the banks' internal governance to the requirements arising from Recommendation Z will expand the tasks assigned to their organizational units and increase the number and scope of internal regulations, including: strategies, policies, regulations with new or updated procedures,
5. the implementation of the principles set out in Recommendation Z will increase the responsibilities of bank employees to implement, comply with and monitor new and/or existing procedures, increasing the costs of conducting banking activities, which in turn may result in an increase in the prices of products offered to bank customers,
6. professionalization of management staff in banks will contribute to building a new ethical architecture in these institutions, and thus to limiting the phenomenon of the so-called moral hazard.

5. ENTITIES OF THE ACTION SCHEME⁹

5.1. Sources and their purposes

5.1.1. Constitutive sources – Polish Financial Supervision Authority

The constitutive, i.e. primary, source that gives direction to the legislative initiative under the action plan resulting from Recommendation Z is the Polish Financial Supervision

⁷ See: Introduction to Recommendations B or H, https://www.knf.gov.pl/knf/pl/komponenty/img/Rekomendacja_B_26_03_2019_65275.pdf, s. 4. https://www.knf.gov.pl/knf/pl/komponenty/img/knf_170534_Rekomendacja_H_2017_50303.pdf, s. 4.

⁸ See: Introduction to Recommendation Z, Zob. https://www.knf.gov.pl/knf/pl/komponenty/img/Rekomendacja_Z_70998.pdf, s. 3-4.

⁹ Categories of entities of the action scheme separated in accordance with the recommended research method described in the publication: (Chmielnicki, 2014).

Authority. On March 10, 2015, it adopted the assumptions of the recommendation in question, noting that the purpose of its issuance will be to correct the internal governance practices used by banks, identified as the causes of irregularities or increased risk in their operations¹⁰. The assumptions also indicate that the provisions of the new recommendation will take into account:

- guidelines of the European Banking Authority of 27 September 2011 on internal management and of 22 November 2012 on the assessment of qualifications of members of the management body of persons performing key functions,
- selected recommendations included, among others: in draft amendments to the guidelines of the Organization for Economic Co-operation and Development (November 2014) and the Basel Committee on Banking Supervision (October 2014).
- the regulatory authority announced that the draft of the new recommendation will be submitted for public consultation in the second half of 2015.
- the final version of Recommendation Z regarding internal governance in banks, adopted by the Polish Financial Supervision Authority on October 9, 2020, includes:
- guidelines on internal governance (EBA/GL/2017/11) of 21 March 2018 and Guidelines on the assessment of the suitability of members of the management body and key function holders (EBA/GL/2017/12) of 21 March 2018. developed by the European Banking Authority,
- selected recommendations included in: the guidelines of the Basel Committee on Banking Supervision "Corporate governance principles for banks" (July 2015), the guidelines of the Organization for Economic Co-operation and Development "G20/OECD Principles of Corporate Governance (September 2015), the document of the European Banking Association Co-operative "Corporate Governance in Co-operative Banks - Key Features" (2016),
- conclusions resulting from observations and experience related to inspections in banks conducted by the Polish Financial Supervision Authority, assessment of statutory solutions of banks and other supervisory activities¹¹.

The regulation of internal governance in banks resulting from Recommendation Z covered the following areas of their activities: bank management system, bank organization, principles of operation, powers, duties and responsibilities, as well as mutual relations of the supervisory board, management board and persons performing key functions in the bank. The introduction to the document emphasizes that the above issues are also regulated in the Banking Law and the Regulation of the Minister of Development and Finance of March 6, 2017 on the risk management system and internal control system, remuneration policy and the detailed method of estimating internal capital in banks¹², and

¹⁰ See: Announcement of the 251st Meeting of the Polish Financial Supervision Authority of March 10, 2015. Access on the internet: https://www.knf.gov.pl/knf/pl/komponenty/img/KNF_10_03_2015.pdf, s. 2–3.

¹¹ See: Introduction to Recommendation Z (in:) Resolution No. 289/2020 of the Polish Financial Supervision Authority of October 9, 2020 on the issuance of Recommendation Z regarding internal governance in banks (Journal of Laws of the Polish Financial Supervision Authority of 2020, item 29).

¹² Regulation of the Minister of Development and Finance of March 6, 2017 on the risk management system and internal control system, remuneration policy and the detailed method of estimating internal capital in banks (Journal of Laws of 2017, item 637, as amended). It was amended by the regulation of the Minister of Finance, Funds and Regional Policy of May 27, 2021 amending the

additionally certain detailed issues in the regulations developed by the Polish Financial Supervision Authority: Recommendation H regarding internal control in banks, Recommendation M regarding operational risk management in banks and the "Principles of Corporate Governance for Supervised Institutions"¹³. Recommendation Z is intended by the regulatory body to achieve two goals, which can be considered its ratio legis: first of all, to counteract incorrect practices that would increase the risk of banks' operations, as well as to increase their resistance to difficult market conditions, thereby increasing the stability of the financial sector.

Already at the stage of developing the draft recommendation, the Polish Financial Supervision Authority emphasized the approach based on the principle of proportionality, i.e. that banks should apply the provisions of the recommendation taking into account the scale, complexity and nature of their activities. Cooperative banks and associating banks that are participants in the protection system should provide the Polish Financial Supervision Authority – through the units managing the protection system - with information on how to take into account the principle of proportionality. Additionally, the information should be accompanied by a justification indicating proportionality, rationality and justification in accordance with the "comply or explain" rule. The Polish Financial Supervision Authority stipulated that in the case of the provisions of Recommendation Z, which apply to banks that are parent entities in the group, they should be understood as addressed to entities at the highest national level of consolidation.

Regardless of the solutions proposed in Recommendation Z, the supervisory authority emphasized that banks should also apply the provisions contained in the other recommendations to the extent they relate to the issues covered by the discussed document on the principles set out therein, but also, which is worth emphasizing, other national or international recognized standards or codes on internal governance principles (e.g. "Good Practices of WSE Listed Companies 2016" developed by the Warsaw Stock Exchange). In order to avoid any ambiguity, banks should disclose what documents and to what extent they are guided in their activities.

5.1.2. Resolute sources

The following institutions can be considered as resolving sources, i.e. a kind of "catalyst of the legislative process": the European Banking Authority (EBA), the European Securities and Markets Authority, as well as the Basel Committee on Banking Supervision, the Organization for Economic Co-operation and Development, the European Association of Cooperative Banks and the banks.

The role of foreign supervisory institutions and international organizations was primarily to develop good practices in the field of internal management in banks and guidelines regarding the suitability of members of management bodies in banks and persons performing key functions in them. The Polish Financial Supervision Authority indicated as the basic models for the solutions adopted in Recommendation Z the two previously mentioned documents authored by the European Banking Authority, which can be considered - together with selected guidelines of the Basel Committee on Banking

regulation on the criteria and method of conducting supervisory examination and assessment in banks (Journal of Laws of 2021, item 987) and from June 1, 2021 . and is valid under the changed name "On the criteria and method of conducting supervisory examination and assessment in banks".

¹³ *Ibidem*, p. 2.

Supervision, the Organization for Economic Co-operation and Development, and the European Association of Cooperative Banks – as functional sources prudential standards of Recommendation Z.

In addition, the direction of the solutions adopted in this recommendation was also influenced by the results of supervisory activities undertaken by the Polish Financial Supervision Authority in relation to the banking sector, based on findings from inspections carried out in banks or assessments of banks' statutory solutions. For this reason, banks can also be classified as resolute sources.

5.1.3. Accessory sources

Accessory sources, i.e. those that were involved in the law-making process as part of public consultations – as follows from the PFSA announcement of October 9, 2020 – include: the Polish Bank Association, the National Association of Cooperative Banks, the Ministry of Finance, the National Bank Polish, Bank Guarantee Fund, PwC, EY, Institute of Internal Auditors IIA Poland, POLRISK Risk Management Association¹⁴.

The consultants for the Recommendation Z project included public authorities (including the Ministry of Finance), the National Bank of Poland, consulting companies (including Ernst and Young) and industry associations (including the Polish Bank Association). The PFSA office did not make public the content of the documents provided as part of these consultations. Likewise the entities participating in them, although there are exceptions¹⁵. The National Association of Cooperative Banks (NACB) posted on its website short information about sending a letter to the Polish Financial Supervision Authority Office containing comments on the draft Recommendation Z, in which it drew the regulatory body's attention to the very general principle of proportionality indicated in the draft recommendation. The task of NACB is that such a structure generates the risk of a very subjective interpretation of this principle, while imposing on cooperative banks and associating banks the obligation to provide the Polish Financial Supervision Authority with information on how to take it into account¹⁶.

5.2. Authorising bodies and their goals

5.2.1. The Polish Financial Supervision Authority was **the constitutive authorising body** of the analyzed recommendation at all stages of legislative work. In addition to the solutions resulting from the previously established guidelines of international institutions and organizations and normative acts, the regulatory body introduced additional solutions in the field of corporate governance into the content of Recommendation Z, enriched with conclusions resulting from inspections carried out in banks, analyzes of the provisions of the statutes and other supervisory activities undertaken. The results of public consultations are also likely to have been taken into account (Cichy, 2020).

¹⁴ See: Announcement of the Polish Financial Supervision Authority of October 9, 2020. Access on the internet: https://www.knf.gov.pl/komunikacja/komunikaty?articleId=70994&p_id=18.

¹⁵ Some of the entities consulting the draft of Recommendation Z refused to share the comments, additions or postulates submitted to the draft of Recommendation Z, arguing that it is standard practice that opinions during public consultations are submitted only to the regulatory body and are not made available externally.

¹⁶ See: „Rekomendacja Z – uwagi KZBS”. Access on the internet: <https://www.kzbs.pl/Rekomendacja-Z--uwagi-KZBS.html>. The full text of the comments is available to members of the National Association of Cooperative Banks after logging in to the website.

It is worth noting that the draft of Recommendation Z was made public by the Polish Financial Supervision Authority in the second half of 2015, and its final version was adopted on October 9, 2020.

5.2.2. The European Banking Authority, the European Securities and Markets Authority, the Basel Committee on Banking Supervision, the Organization for Economic Co-operation and Development, and the European Association of Cooperative Banks can be considered as **the administrators of the resolution Z** Recommendation, whose guidelines were, to varying degrees, implemented into the solutions adopted in Recommendation Z. Moreover, additional decision makers were the banks themselves as the practices they used, identified by the Polish Financial Supervision Authority as a source of irregularities or increased risk in their activities, were then taken into account in the work on the recommended solutions.

5.2.3. Accessory administrative bodies include state authorities that took part in public consultations and could influence the final shape of Recommendation Z. In the analyzed case, these were: the National Bank of Poland, the Ministry of Finance and the Bank Guarantee Fund. However, due to the practice adopted by the Polish Financial Supervision Authority of not disclosing documentation related to the process of developing recommendations addressed to banks, including those from the stage of public consultations, it is difficult to determine the scope and nature of the participation of the mentioned entities in the process of creating the provisions of Recommendation.

6. USERS OF THE ACTION PLAN

Reconstruction of the action plan resulting from Recommendation Z allows one to identify its main users, including:

- **banks**, which by January 1, 2022 should – taking into account the principle of proportionality - adapt their internal order to its recommendations,
- **members of banks' statutory bodies**, primarily the management board and supervisory board, who will have to, among others, meet the suitability criteria and guarantee the proper performance of the duties entrusted to them in the field of bank management,
- **bank employees/organizational units of banks, including those responsible for risk management**, other than members of the bank's statutory bodies/bodies implementing, applying and monitoring procedures and carrying out tasks taking into account the recommendations resulting from Recommendation Z,
- **registry courts** as the introduction by banks of certain solutions resulting from the recommended prudential standards may require new or changes to existing entries in the National Court Register in the scope of, among others: changes in the composition of statutory bodies,
- **the Polish Financial Supervision Authority**, which will be guided by its recommendations in the supervisory process,
- **bank customers** - in terms of efficient and transparent operation of banks and the use of new or changed banking products offered, the contract templates of which should not contain abusive clauses or clauses - despite the different language form - similar to clauses entered in the register of prohibited clauses,
- **the state** as the degree of implementation and subsequent application of prudential standards by banks in the field of internal governance will affect the security of the entire financial sector.

As mentioned earlier, Recommendation Z is an effective tool for preventive supervision for the Polish Financial Supervision Authority, but also a reference point to assess the structure and composition of statutory bodies, and the method of managing banking activities in accordance with the methodology for the examination and supervisory assessment of commercial, associating and cooperative banks (BION) or the methodology for assessing the suitability of members bodies of supervised entities.

The banks themselves may benefit from the implementation of the recommended prudential standards, due to the expected favorable assessment of the Polish Financial Supervision Authority in terms of their internal governance and – as follows from the declared *ratio legis* of the regulation in question - better implementation of the directive on stable and prudent conduct of business, which will allow them to prepare more effectively to future difficult market conditions.

The condition of banks, in particular orderly internal order and transparency of operations, can be considered beneficial for the state itself in terms of financial security, because the banking sector's resistance to possible future financial crises and its flexibility in reacting to them will increase.

Assuming that one of the users of the operational scheme are registration courts, the State Treasury may also be a beneficiary of Recommendation Z, due to the increase in the number of applications and fees charged for entries in the National Court Register.

Organizational and financial costs related to the implementation of new and adaptation of existing ones, among others, regulations, procedures, policies and strategies constituting the internal governance and its management system will be borne by banks, which may result in an increase in the prices of the financial services they offer.

In addition, the beneficiaries of the recommendations of Recommendation Z include the management and supervisory staff of banks, who will be subject to constant control in terms of meeting the criterion of suitability and guarantee of performance of the tasks entrusted to them.

On the part of the registry courts, the cost may be an increase in the number of considered applications for entries in the National Court Register regarding changes, among others, in the composition of statutory bodies.

The PFSA itself is also a party to the regulation in question as to the need to issue or update additional studies specifying or explaining the prudential standards contained in Recommendation Z, e.g. templates for assessing the suitability of a member of the management board, supervisory board or a person performing key functions¹⁷.

7. RECONSTRUCTION OF THE CONNECTIONS BETWEEN INFORMAL AND FORMAL NORMS IN RECOMMENDATION Z

Recommendation Z is an extensive set of principles and procedures (and guidelines for procedures), which consists of the following elements:

- Introduction,

¹⁷ See, among others, update of February 1, 2021 in „Metodyka oceny odpowiedniości członków organów podmiotów nadzorowanych przez Komisję Nadzoru Finansowego” by supplementing its point 3.2.1.1.6.2. https://www.knf.gov.pl/knf/pl/komponenty/img/Metodyka_oceny_odpowiedniosci_czlonkow_organow_podmiotow_nadzorowanych_przez_KNF_1-02-2021.pdf and taking into account changes in the regulatory environment and previous experience related to the application of the Methodology, including feedback from supervised entities (June 2023) https://www.knf.gov.pl/knf/pl/komponenty/img/Metodyka_modul_1_83353.pdf.

- Glossary of terms used,
- (A) General principles of internal governance in the bank – 2 recommendations,
- (B) Principles of operation, powers, duties, responsibilities, mutual relations of the supervisory board and management board and the suitability of members of these bodies and persons performing key functions – 9 recommendations,
- (C) Bank standards of conduct and conflicts of interest at the bank level – 2 recommendations,
- (D) Policy of outsourcing activities, remuneration rules in the bank and dividend policy – 3 recommendations,
- (E) Risk management – 13 recommendations,
- (F) Disclosures – 1 recommendation.

Individual recommendations are extensive and divided into smaller editorial units, for example, recommendation No. 7 regarding the suitability of members of the supervisory board and management board and persons performing key functions in the bank consists of 23 sub-points additionally divided into smaller editorial units – letters.

The action patterns resulting from Recommendation Z create solutions formalized by *soft law* provisions, i.e. legally non-binding standards that supplement and specify:

- standards of generally applicable law: the Banking Law, the Accounting Act, the Commercial Companies Code; implementing acts, among others Regulation of the Minister of Finance of May 7, 2018 on the detailed scope of tasks of the nomination committee in significant banks (Journal of Laws of 2018, item 883), Regulation of the Minister of Finance, Funds and Regional Policy of June 8, 2021 on the risk management system and internal control system and remuneration policy in banks (Journal of Laws, item 1045) of EU regulations, e.g. Commission Delegated Regulation (EU) No. 604/2014 of March 4, 2014 supplementing the Directive of the European Parliament and Council 2013/36/EU with regard to regulatory technical standards with regard to qualitative criteria and appropriate quantitative criteria for determining the categories of employees whose professional activities have a significant impact on the risk profile of the institution (OJ EU L 167, 06/06/2014, p. 30, as amended),
- *soft law* standards previously developed by: the Polish Financial Supervision Authority (in particular: Recommendation H regarding the internal control system in banks and Recommendation M regarding operational risk management in banks and the Principles of Corporate Governance for supervised institutions), the Warsaw Stock Exchange ("Good Practices WSE Listed Companies" 2016, if the bank is a listed company) or by the European Banking Authority in the form of the guidelines mentioned earlier,
- internal standards related to the functioning of banks: statutes, regulations, strategies, policies,
- unformalized rules of operation determining behavior and decisions, including: members of the management board, supervisory board or people responsible for risk management in the bank.

The latter group includes in particular economic rules such as e.g. risk assessment in business activities, risk assessment of introducing new products, but also competence standards that constitute the decision-making process and are important, among others: in the selection procedures for positions in the bank's governing bodies or ethical standards taken into account, among others, conflict management procedures in the bank.

It should be emphasized that not all solutions recommended in Recommendation Z are new. The recommendation in question collects and systematizes good practices eliminating the above-mentioned regulations of generally applicable law and soft law regulations. For this reason it is called the so-called umbrella regulation (Cichy, 2020). Regardless of this, Recommendation Z contains new solutions regarding, among others:

- an assessment of the bank's internal governance and its implementation (recommendation 1.3),
- an assessment of the suitability of a management board member (recommendation 7-8),
- a periodic verification and an assessment of compliance with ethical principles (recommendation 12.4),
- the bank's obligations in terms of managing conflicts of interest, including those arising from kinship or affinity of persons holding specific positions in the management or supervisory board¹⁸, as well as making public the conflict of interest management policy (including recommendations 13.4., 13.5. and 13.6.),
- director's pay ratio, i.e. a rule meaning specifying in the bank's remuneration rules the maximum ratio of the average total gross remuneration of management board members in an annual period to the average total gross remuneration of other bank employees in an annual period; Moreover, this ratio should be set at a level that enables the bank's employees to effectively perform their tasks, taking into account the need for prudent and stable management of the bank (recommendation 15.3),
- the obligation for the management board member supervising risk management to justify in writing their veto or change their position during management board votes on decisions related to risk management and for the management board to immediately inform the supervisory board about this fact (recommendation 27.3),
- sorting out issues related to the policy of approving new products, as well as introducing a mechanism for refusing to approve a new product or significant changes to existing products by the organizational unit responsible for risk management or the compliance unit (recommendation 29.5).

Regarding the policy of introducing new banking products, Recommendation Z, as mentioned earlier, organizes the existing solutions in this area and adds new recommendations. Reconstruction of activities resulting from recommendation 29 allows the identification of two patterns: the first is the recommended way for the bank to develop a new products approval policy (NPAP), and the second is the procedure for approving new products or significant changes to existing ones based on it. From the point of view of the core of the normative set, the rules resulting from recommendation 29 should be considered crucial rather than optional, because failure to implement them may have

¹⁸ For example, see § 9 of the "Principles of managing conflicts of interest" applicable at the Cooperative Development Bank. The document also indicates that the management of conflicts of interest in the CDB takes into account provisions resulting from, among others, from Recommendation Z (§ 1 section 3). Access on the internet: https://www.sbrbank.pl/files/resources/Zasady_zarz_dzania_konfliktami_interes_w.pdf.

Also introduction and letter J in point 5 Fri "Guidelines on counteracting and managing conflicts of interest" included in the "Policy on counteracting conflicts of interest of Santander Bank Polska S.A. Access on the internet: https://www.santander.pl/regulation_file_server/time20211221130314/download?id=163825&lang=pl_PL.

a negative impact on effective risk management in relation to these products, as well as on the periodic supervisory assessment carried out by the Polish Financial Supervision Authority, unless the bank proposes alternative solutions, which are equally effective from the point of view of the stability of banking activities.

The first action plan shows that the bank's management board should develop in writing, and then adopt and implement a new product approval policy (NPAP) approved by the supervisory board. It should include: the definition of a new product/market/activity used within the bank and its organizational units, the development of new products, services and markets, and significant changes to existing products, services and markets. Recommendation 29.2. recommends that the NPAP should also indicate the most important issues taken into account before making a decision to introduce a new product, in particular regarding: compliance with regulatory requirements, valuation models, impact on the size and risk profile, capital adequacy and profitability, as well as the availability of sufficient resources in business units and support units, as well as internal tools and expertise sufficient to understand and monitor the risks associated with change.

It should be emphasized that when making significant changes to the products or services currently offered, the bank should also take into account the provisions of the Regulation of the Minister of Development and Finance of March 6, 2017 on the risk management system and internal control system, remuneration policy and the detailed method of estimating internal capital in banks regarding the introduction of a new product.

The reconstruction of the scheme for preparing the banking policy for approving new products includes not only the norms classified as *soft law*, which include formalized management rules and praxeological rules, but also legal norms resulting from the provisions of generally applicable law.

In the second scheme of operation, the procedure for developing and approving new products or introducing significant changes to existing ones involves several stages. Recommendation 29.2 specifically recommends that a bank should not undertake new business until it has sufficient resources to understand and manage the risks involved. Moreover, the decision to start a new business should indicate the business unit and the persons responsible for it. The organizational unit responsible for risk management and, to the extent appropriate, the compliance unit should also participate in the process of approving new products or significant changes to existing products. The actions taken by these units should, first of all, enable a full and objective assessment of the risk arising from the new activity, taking into account various scenarios, the assessment of any potential weaknesses in the risk management system and the internal control system in the bank, as well as the assessment of the institution's ability to effectively manage the new risk. To make this possible, both bank units indicated in recommendation 29.2 should be provided with: full access to information on new products being prepared (or significant changes to existing products) within individual business lines and portfolios, as well as the authority to request that all changes to existing products be subjected to a formal procedure in within the framework of NPAP.

The new solution provided for in recommendation 29.5 is the so-called small veto of the organizational unit responsible for risk management or compliance. It means that if one of these units expresses a negative opinion as to the appropriateness of approving a new product or significant changes to the existing product, the decision on approval should be made by the bank's management board, and not by a committee appointed by it.

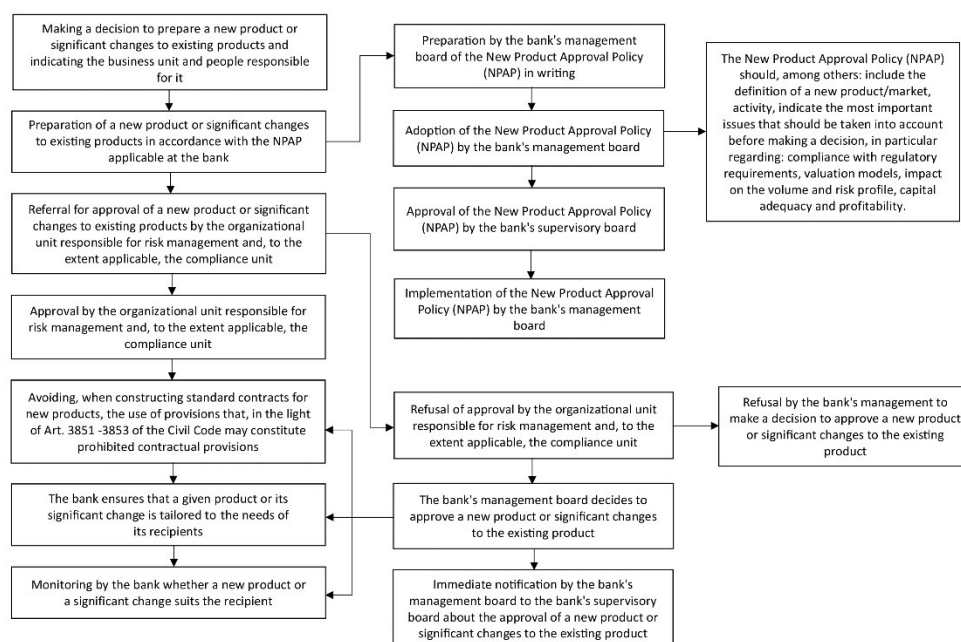


Figure 1. Action diagram regarding the policy of approving new products resulting from Recommendation Z

Source: own study.

Moreover, in such a situation, the bank's management board immediately informs the bank's supervisory board about the approval of the new product or significant changes to the existing product, along with an indication of the reasons why it did not take into account the opinion of the organizational unit responsible for risk management and, to the extent applicable, the compliance unit. Against the background of the wording of recommendation 29.5. it is doubtful whether the competence of the management board presented therein will be applied when both units express negative opinions regarding the approval of a new product or significant changes to the existing product.

In the analyzed action plan, Recommendation Z recommends that, when developing standard contracts for new products, the bank should avoid using provisions that, in the light of Art. 385¹-385³ of the Civil Code¹⁹ may constitute prohibited contractual provisions, as well as provisions which, despite their different linguistic form, are similar to those entered in the register of prohibited clauses of the Office of Competition and Consumer Protection (OCCP) (Fedorowicz, 2021). Including provisions in standard contracts that may be considered abusive by courts and the Office of Competition and Consumer Protection may expose the bank to, among others, to the risk of incurring the costs of compensation, costs of court proceedings or the risk of loss of reputation.

Moreover, when introducing a new product or making significant changes to the existing product, the bank should ensure that it is tailored to the needs of its recipients.

¹⁹ Act of April 23, 1964, Civil Code (consolidated text: Journal of Laws of 2023, item 1610, as amended).

The bank also monitors whether a new product or a significant change to an existing product suits the recipient. This is done in particular by controlling the sales process and analyzing complaints and claims submitted by the bank's customers.

In the above scheme of action, reconstructed on the basis of the guidelines resulting from recommendation 29, as in the first scheme, the prevailing norms fall into the category of *soft law*, i.e. formalized management rules and praxeological rules, and they are supplemented by the norms of generally applicable law.

8. VERIFICATION OF RESEARCH HYPOTHESES

The normative set method made it possible to formulate the following preliminary conclusions (due to the short period that elapsed after banks implemented the provisions of Recommendation Z) against the background of the previously formulated research hypotheses:

1. the main source of resolution of the discussed regulation were foreign supervisory institutions and international organizations, including primarily the European Banking Authority and the guidelines developed by it (EBA/GL/2017/11 and EBA/GL/2017/12), which can also be considered functional source of public banking law,
2. recommendations resulting from Recommendation Z will contribute to the unification of banks' internal procedures, including: in the scope of organizing internal governance in the bank and its compliance, assessing the suitability of members of the management board, supervisory board and persons performing key functions, assessing the impact of remuneration principles on the way of managing the bank or the policy of approving new products. This will make it easier for the Polish Financial Supervision Authority to perform supervisory activities towards banks in the field of corporate governance,
3. by implementing the discussed recommendations, banks should more efficiently introduce the directive for stable and prudent management of banking activities, and prepare more effectively for future difficult market conditions, due to the growing importance of the quality of corporate governance and the professionalization of staff performing key functions in banks to ensure the security of the banking system and, more broadly, the banking system. financial state,
4. bringing the internal organization of banks into compliance with the requirements arising from Recommendation Z will result in the expansion or reorganization of their internal structure and regulations, e.g. with new units/cells of a controlling or consultative nature, as well as the development of new or modification of existing strategies, policies, regulations in the area of internal governance, e.g. resolving bank conflicts, dividend policy or new product approval policy,
5. the implementation of the prudential standards specified in Recommendation Z involves banks incurring additional organizational costs, including: changes or creation of new procedures, review of existing policies and modification or creation of new units/cells in the bank or new positions, which may affect the prices of products offered to customers,
6. the recommendations resulting from Recommendation Z will lead to the professionalization of management staff in banks and the strengthening of their ethical architecture, contributing to the elimination or at least reduction of the so-called *moral hazard*.

9. CONCLUSIONS

The declared *ratio legis* of Recommendation Z is to disseminate good practices in the field of internal governance in banks, which in turn is to minimize the risk of their operations, increase their resistance to difficult market conditions and increase the stability of the financial sector. The essential element of the recommended solutions is the organization of relations between the supervisory board and the management board in the bank, the selection of appropriate people for key positions and the PFSA's monitoring of the suitability of these people during their term of office, as well as risk management procedures in banks.

To put it simply, it can be said that in addition to the need for banks to develop and implement strategies, policies, as well as regulations and plans for the new internal order, the key issue is the selection of such staff who, in the intention of the creators of the Basel Consensus, the EU legislator (CRD IV directive) and national (amendments to the Banking Law in the part regarding bank bodies and their competences, composition and regulations), European (EBA) and national (PFSA) regulatory bodies will be resistant to the phenomenon of moral hazard. This is an ambitious task and a challenge at the same time, because it concerns not only professional suitability (qualifications, professional experience), but also ethical suitability, which is not only difficult to measure, but unfortunately also variable.

In this context, the results of research on the relationship between work in the financial sector and the morality of the people employed there are interesting, although not surprising. According to Marta Rocchi and David Thunder, an ethical financier will perform their work in an ethical manner, even though the financial (banking) environment does not shape such virtues, and what is more, it does not possess them in itself (Rocchi, Thunder, 2019). It seems that only in the longer term will it be possible to assess whether and how good practices implemented by supervised entities in the field of suitability of members of bank bodies and control in this respect by the Polish Financial Supervision Authority will increase the ethical level of bank management staff, while minimizing the phenomenon of moral hazard in their business activities.

The normative set method used for the institutional analysis of Recommendation Z as a *soft law* regulation allowed the determination of its sources, administrators, main beneficiaries and malefices, and the reconstruction of the selected scheme of action, similarly to regulations classified as sources of generally applicable law. Moreover, it also made it possible to formulate the following *de lege ferenda* conclusions regarding the procedure for developing or amending recommendations addressed to banks by the Polish Financial Supervision Authority:

- the strengthening of the transparency of the activities of the PFSA as a public administration body would be facilitated by making public the results of public consultations on draft recommendations for banks, thus making it possible to determine the impact of accessory sources on the final shape of prudential standards, as well as the degree to which the PFSA takes into account the demands made by these sources, and thus the scope optimization of recommended solutions,
- it would also be desirable for the Polish Financial Supervision Authority, as a constitutive source, to assess the socio-economic effects of the draft recommendations addressed to banks.

Moreover, it should be emphasized that equally interesting from the methodological point of view are certain differences noticed during the implementation of individual

research stages within the normative set, resulting from the fact that Recommendation Z is a regulation classified as *soft law*.

Firstly, in the operational schemes reconstructed on the basis of Recommendation Z, the Polish Financial Supervision Authority plays several roles, i.e. as an entity classified as a constitutive source, it is also the legislator/initiator and constitutive administrator of the regulation in question, and in a sense monitors the degree and manner of its implementation. However, the methodological assumptions of the normative set provide that the same entity may assume one or more roles (or even all) within a separate action scheme(s) (Chmielnicki, 2020).

Secondly, the standards resulting from the examined recommendation are formalized standards, although legally non-binding for banks as entities supervised by the Polish Financial Supervision Authority, which is not irrelevant to the findings made in the 4th stage of the research.

Thirdly, the content of Recommendation Z includes an extensive set of good practices and procedures, primarily for the statutory bodies of banks, which provide patterns of numerous separate, but also sometimes overlapping, competences and activities in the field of managing banking activities and risks in these activities. The addressees of these standards implement them based on the principle of proportionality.

Fourthly, something new is the extent to which banks can use alternative solutions when shaping their internal order, including, for example, establishing the so-called the suitability of persons performing key functions in management bodies in relation to the good practices recommended by the Polish Financial Supervision Authority in this respect, if the Polish Financial Supervision Authority may be guided by them in the supervisory assessment of these entities.

REFERENCES

- Adamska, A. (2014). *Projekt Zasad Ładu Korporacyjnego dla instytucji nadzorowanych – ocena w świetle zasady proporcjonalności*. Access on the internet: http://alterum.pl/uploaded/Proporcjonalnosc_-_zasady_ladu_korporacyjnego_dla_jednos.pdf.
- Baker, A. (2013). *The new political economy of the macroprudential ideational shift*. "New Political Economy", No. 18.
- Baker, T. (1996). *On the Genealogy of Moral Hazard*. "Texas Law Review", Vol. 75, No. 2.
- Czech, T. (2009). *Charakter prawny rekomendacji Komisji Nadzoru Finansowego*. „Przegląd Prawa Publicznego”, No. 11.
- (2013). *Miejsce uchwał Komisji Nadzoru Finansowego w systemie źródeł polskiego prawa*. „Monitor Prawa Bankowego”, No. 7–8.
- Cichy, Ł. (2020). *Rekomendacja Z*, Access on the internet: <https://langas.pl/rekomendacja-z/>.
- Chmielnicki, P., ed. (2014). *Pochodzenie, tworzenie i efektywność prawa*. Warszawa: LexisNexis.
- (2015). *Tworzenie instytucji gospodarki a ustawodawstwo polskie*. Warszawa: Wolters Kluwer.
- (2020). "Macro" and „micro" approach to research on law as a part of socio-economic system" [In:] Chmielnicki, P., Sulikowski, A., eds., *New perspectives on legislation. A comparative approach*. Berlin: Peter Lang.
- Dembinski, P.H. (2017). *Etyka i odpowiedzialność w świecie finansów*. Warszawa: Wydawnictwo Studio Emka.

- Epstein, G.A., ed. (2006). *Financialization and the world economy*. Cheltenham, Northampton: Edward Elgar.
- Fedorowicz, M. (2021). *Znaczenie soft law EBA dla określenia normatywnego standardu ochrony konsumenta na rynku finansowym*. „Internetowy Kwartalnik Antymonopolowy i Regulacyjny”, No. 7(10).
- Grotkowska, K. (2018). *Zaostrzone reguły gry. Sytuacja rodzin osób uzależnionych od hazardu*. „Przegląd Prawa Publicznego”, No. 5.
- Iwaniec, M. (2018). *Kreowanie wyników przedsiębiorstwa w sprawozdaniach finansowych a inwestycje niefinansowe*. „Przegląd Prawa Publicznego”, No. 6.
- Jankowska-Prochot, I. (2018). *Analiza przepisów dotyczących przestępstw przeciwko wiarygodności faktur oraz skutki znowelizowanych regulacji karnoprawnych w tym zakresie*. „Przegląd Prawa Publicznego”, No. 4.
- Kaczmarek, A., Kudela, W. (2018). *Analiza i skutki ustawy o pomocy państwa w wychowywaniu dzieci, tzw. program „Rodzina 500 plus”*. „Przegląd Prawa Publicznego”, No. 6.
- Kaszubski, R. (2006). *Funkcjonalne źródła prawa bankowego publicznego*. Kraków: Kantor Wydawniczy Zakamycze.
- Kurzępa-Dedo, K., Gemzik-Salwach, A. (2018). *Ustawa antylichwiarska a zmiany na rynku instytucji pożyczkowych – wybrane zagadnienia (część 1)*. „Humanities and Social Sciences”, 25(3).
- Marcinkowska, M. (2014). *Zasady ładu korporacyjnego dla banków*. „Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie”, No. 10(934).
- Maśniak, D. (2016). *Znaczenie rekomendacji Komisji Nadzoru Finansowego (U) wydanej dla banków dotyczącej dobrych praktyk w zakresie bancassurance oraz wytycznych Komisji Nadzoru Finansowego dla zakładów ubezpieczeń dotyczących dystrybucji ubezpieczeń dla regulacji rynku ubezpieczeniowego* [In:] Jurkowska-Zeidler, A., Olszak, M., eds., *Prawo rynku finansowego. Doktryna, instytucje, praktyka*. Warszawa: Wolters Kluwer.
- Monkiewicz, J., Monkiewicz, M. (2019). *W poszukiwaniu nowego paradygmatu ochrony konsumentów na rynkach finansowych* [In:] Monkiewicz, J., Rutkowska-Tomaszewska, E., eds., *Ochrona konsumenta na polskim i międzynarodowym rynku finansowym*. Warszawa: Wolters Kluwer.
- Nadolska, A. (2021). *Soft Law w regulacji rynku finansowego w Polsce: rekomendacje, wytyczne i lista ostrzeżeń publicznych KNF*. Warszawa: C.H. Beck.
- Nieborak, T. (2016). *Tworzenie i stosowanie prawa rynku finansowego a proces ekonomizacji prawa*. Poznań: Wydawnictwo Naukowe UAM.
- Ofiarski, Z. (2017). *Status prawny i funkcje rekomendacji wydawanych przez Komisję Nadzoru Finansowego oraz Komitet Stabilności Finansowej*. „Przegląd Ustawodawstwa Gospodarczego”, No. 9.
- (2013). *Prawo bankowe. Komentarz*. LEX 2013, art. 137.
- (2016). *Rola soft law w regulacji rynku finansowego na przykładzie rekomendacji i wytycznych Komisji Nadzoru Finansowego* [In:] Jurkowska-Zeidler, A., Olszak, M., eds., *Prawo rynku finansowego. Doktryna, instytucje, praktyka*. Warszawa: Wolters Kluwer.
- Olszak, M. (2010). *Rekomendacje organu nadzoru bankowego – geneza, przedmiot regulacji, charakter prawny*. „Przegląd Ustawodawstwa Gospodarczego”, No. 11.
- (2011). *Bankowe normy ostrożnościowe*. Białystok: Wydawnictwo Temida 2.
- (2016). *Zintegrowany nadzór finansowy a ryzyko instytucji finansowych* [In:] Czerwińska, T., Jajuga, K., eds., *Ryzyko instytucji finansowych. Współczesne trendy i wyzwania*. Warszawa: C.H. Beck.

- PFSA (2024), *A list of recommendations addressed to the banking sector*. Access on the internet: https://www.knf.gov.pl/dla_rynku/regulacje_i_praktyka/rekomendacje_i_wytyczne/rekomendacje_dla_bankow?articleId=8522&p_id=18.
- Rocchi, M., Thunder, D. (2019). *Can a Good Person be a Good Trader? An Ethical Defense of Financial Trading*. "Journal of Business Ethics", Vol. 159, issue 1.
- Romanowski, M., Weber-Elżanowska, A.M. (2016). *Kilka refleksji na temat kompetencji Komisji Nadzoru Finansowego do wydania zasad Ładu Korporacyjnego dla instytucji nadzorowanych*. „Wiadomości Ubezpieczeniowe”, Vol. 3.
- Romanowski, M., Zarzycka, K. (2020), *Ocena kryteriów przyjętych przez Komisję Nadzoru Finansowego w Metodycy oceny odpowiedniości członków organów podmiotów nadzorowanych z 2020 roku*, „Wiadomości Ubezpieczeniowe”, Vol. 3.
- Smykla, B. (2011). *Prawo bankowe. Komentarz*. Warszawa: C.H. Beck.
- Stefanicki, R. (2018). *Desygnaty należytego sprawowania funkcji zarządczych w instytucjach finansowych w świetle orzecznictwa sądownoadministracyjnego*. „Zeszyty Naukowe Sądownictwa Administracyjnego”, No. 6.
- Tymczyszyn, P., Wajda, D. (2022) [In:] *Prawo bankowe. Komentarz*, red. Mikos-Sitek, A., Zapadka, P., Warszawa: art. 22(aa)/LEX.
- Wajda, D. (2018). *Kwalifikacje członków zarządu na gruncie Kodeksu spółek handlowych, w prawie bankowym oraz ubezpieczeniowym i reasekuracyjnym*. „Przegląd Prawa Handlowego”, No. 4.
- Żelasko-Makowska, E., Sołtysiak, P. (2016). *Finansowanie publiczne niepublicznych szkół dla dorosłych*, „Przegląd Prawa Publicznego”, No. 12.

List of legal acts

- Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on the conditions of admission of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directive 2006/48/EC and 2006/49/EC (Journal of Laws EU L. of 2013, No. 176, p. 338, as amended).
- Act of April 23, 1964, Civil Code (consolidated text: Journal of Laws of 2023, item 1610, as amended)
- Act of August 29, 1997, Banking Law (consolidated text: Journal of Laws of 2023, item 2488, as amended)
- Act of March 6, 2018 – Entrepreneurs' Law (consolidated text: Journal of Laws of 2024, item 236, as amended)
- Act of September 15, 2000, Commercial Companies Code (consolidated text: Journal of Laws of 2024, item 18, as amended)
- Act of 5 August 2015 on macroprudential supervision over the financial system and crisis management in the financial system (consolidated text: Journal of Laws of 2022, item 2536, as amended)
- Regulation of the Minister of Development and Finance of March 6, 2017 on the risk management system and internal control system, remuneration policy and the detailed method of estimating internal capital in banks (consolidated text: Journal of Laws of 2022, item 1201).
- Regulation of the Minister of Finance, Funds and Regional Policy of May 27, 2021 amending the regulation on the criteria and method of conducting supervisory examination and assessment in banks (Journal of Laws of 2021, item 987) and from June 1, 2021 and is in

force under the changed name "On the criteria and method of conducting supervisory examination and assessment in banks".

Others

- Announcement of the Polish Financial Supervision Authority of October 9. Access on the internet: 2020. https://www.knf.gov.pl/komunikacja/komunikaty?articleId=70994&p_id=18.
- Guidelines on internal governance EBA/GL/2017/11 of 21 March 2018. Access on the internet: https://www.eba.europa.eu/sites/default/documents/files/documents/10180/2164689/1c4d2b82-b044-42fa-8efa-e0867c0335aa/Guidelines%20on%20Internal%20Governance%20%28EBA-GL-2017-11%29_PL.pdf?retry=1.
- Guidelines on the assessment of the liability of members of the management body and key function holders EBA/GL/2017/12 of 21 March 2018. Access on the internet: <https://www.esma.europa.eu/document/joint-esma-and-eba-guidelines-assessment-suitability-members-management-body-and-key-0>.
- Introduction to Recommendations B. Access on the internet: https://www.knf.gov.pl/knf/pl/komponenty/img/Rekomendacja_B_26_03_2019_65275.pdf.
- Introduction to Recommendations H. Access on the internet: https://www.knf.gov.pl/knf/pl/komponenty/img/knf_170534_Rekomendacja_H_2017_50303.pdf.
- Introduction to Recommendation S. Access on the internet: [nf.gov.pl/knf/pl/komponenty/img/Nowelizacja_Rekomendacja_S_23-07-2020_70340.pdf](https://www.knf.gov.pl/knf/pl/komponenty/img/Nowelizacja_Rekomendacja_S_23-07-2020_70340.pdf).
- Introduction to Recommendation Z. Access on the internet: https://www.knf.gov.pl/knf/pl/komponenty/img/Rekomendacja_Z_70998.pdf.
- Principles of Corporate Governance for supervised institutions" (PCG), Polish Financial Supervision Authority in a resolution of July 22, 2014. Access on the internet: https://www.knf.gov.pl/knf/pl/komponenty/img/knf_140904_Zasady_ladu_korporacyjnego_22072014_38575.pdf.
- Principles of managing conflicts of interest applicable at the Cooperative Development Bank. Access on the internet: https://www.sbrbank.pl/files/resources/Zasady_zarzadzania_konfliktami_interes_w.pdf.
- Policy on counteracting conflicts of interest of Santander Bank Polska S.A. Access on the internet: https://www.santander.pl/regulation_file_server/time20211221130314/download?id=163825&lang=pl_PL.
- Metodyka oceny odpowiedniości członków organów podmiotów nadzorowanych przez Komisję Nadzoru Finansowego. Access on the internet: https://www.knf.gov.pl/knf/pl/komponenty/img/Metodyka_oceny_odpowiedniosci_czlonkow_organow_podmiotow_nadzorowanych_przez_KNF_1-02-2021.pdf.
- Recommendation Z regarding internal governance in banks was adopted unanimously by the Polish Financial Supervision Authority on October 9, 2020, PFSA announcement of October 9, 2020. Access on the internet: https://www.knf.gov.pl/komunikacja/komunikaty?articleId=70994&p_id=18.
- Resolution No. 289/2020 of the Polish Financial Supervision Authority of October 9, 2020 on the issuance of Recommendation Z regarding internal governance in banks (Journal of Laws of the Polish Financial Supervision Authority of 2020, item 29).
- Rekomendacja Z – uwagi KZBS. Access on the internet: <https://www.kzbs.pl/Rekomendacja-Z--uwagi-KZBS.html>.

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SELECTED TASKS OF THE PROVINCIAL COMMANDER OF THE STATE FIRE SERVICE IN TERMS OF ENSURING SAFETY DURING MASS SPORTS EVENTS IN POLAND

This article discusses the rights and obligations of the provincial commander of the State Fire Service, who has been equipped with the tasks of this entity in the field of safety of mass sports events. In accordance with the regulations of the Act of March 20, 2009, on the safety of mass events adopted by the legislator, the provincial commander of the State Fire Service plays a key role, among others, in assessing the safety status of the facility or area where a mass sports event is to be held. The commander also undertakes a number of direct activities aimed at preventing the occurrence of various types of threats during the events in question.

Keywords: safety, provincial commander of the State Fire Service, mass sports events.

1. INTRODUCTION

Issues related to ensuring public safety and order are currently one of the most important areas of interest of both public administration bodies and society. At the outset, it is right to admit that the first quarter of the 21st century is a time in which humanity had to face a number of events that had and still have a significant impact on the general sense of security among people. Looking chronologically, one of the first threats that significantly influenced the subconscious sense of security in society were large-scale terrorist attacks. Their targets were most often civilians. Another global danger was the COVID-19 infectious disease pandemic, which was caused by the SARS-CoV-2 coronavirus. Currently, society is paying attention to the armed conflicts taking place in Ukraine and the Middle East. From the perspective of people living in Central and Eastern Europe, the negative effects of the above dangerous events are particularly noticeable. Such consequences include, among others, the destabilization of the economic situation caused by a significant increase in inflation, the migration crisis and a decrease in the cultural and sports comfort of everyday life. All these factors have a very large impact on the level of security in society, and therefore each of us wonders how we can minimize the risk of personally experiencing any danger. Concerns about one's health and even life have also

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had an impact in recent years on the level of sense of security among participants of mass events, including mass sports events - both in Poland and around the world.

Ensuring the safety of citizens is one of the most important tasks of every state. The same is the case with Poland. Therefore, state authorities are obliged to create appropriate legal regulations and then implement them effectively, so that citizens can feel confident about their own lives and health, as well as those of their families. In connection with the above, first of all, the content of Art. 5 of the Constitution of the Republic of Poland, which states that the Republic of Poland is responsible for safeguarding the independence and inviolability of its territory, as well as ensuring the safety of its citizens. When interpreting the cited provision of the Constitution of the Republic of Poland, which is the highest source of generally applicable law in Poland, it should be assessed that it is a regulation of a general nature, and its further developments (in various areas of everyday life) are mainly found in separate acts and regulations. With regard to the safety of mass sports events, the issues of ensuring public safety and order in connection with the organization and conduct of a mass sports event, as well as the tasks entrusted in this matter to the provincial commander of the State Fire Service, are regulated in detail in the Act of March 20, 2009 on the safety of mass events (hereinafter referred to as: u.b.i.m.) and in the implementing acts to this Act.

In connection with the above, it is also appropriate to point out that the term „safety of mass events” means that the organizer meets the requirements regarding the safety of persons participating in the event, protection of public order, medical security, as well as ensuring the appropriate technical condition of buildings and the facilities used for this purpose, facilities with installations and technical devices – in particular fire protection and sanitary equipment (Kotowski, Kurzepa, 2012).

2. EXAMPLES OF THREATS OCCURRING DURING MASS SPORTS EVENTS

The organization of mass events, and therefore also mass sports events, generates a very large variety of potential threats that may occur during the event. This is mainly determined by the characteristics of such an event, which is characterized by very high dynamics and unpredictability, which, in correlation with the participation of a very large number of people - for example at a football stadium or sports hall, means that actions aimed at counteracting the possibility of any threat must be taken not only during a mass sports event, but above all at the stage of planning its implementation. Therefore, it should be noted that the group of potential threats that may occur during mass sports events include, among others: hooligan behavior, fire outbreak or construction disaster, as well as the possibility of carrying out a terrorist attack aimed at people participating in such event (Wiśniewski, Socha, Gracz, 2010). The most reliable proof of the view presented earlier may be examples of tragic events that took place in the past in connection with the organization of a mass sports event.

The first example will be a story that took place in May 1985. It was then that a fire broke out during the first half of a football match between Bradford City and Lincoln City, resulting in the tragic death of 56 people. Based on media reports, it can be learned that the fire was caused by the irresponsible behavior of one of the match participants, which, combined with the wooden structure of the stadium and the aura that prevailed at that time, became a trap for many fans from which they had no chance to escape. According to unofficial opinions, this outdated stadium at that time did not meet the safety requirements for a football match attended by over 10,000 football fans

(<https://sportowefakty.wp.pl/pilka-nozna/686256/w-pozarze-stadionu-zginelo-56-osob-drewniane-trybuny-okazaly-sie-smiertelna-pula>).

Another tragic event was the disaster that took place on October 16, 1996 in Guatemala. It was due to the improper organization of the qualifying match for the 1998 FIFA World Cup between the national teams of Guatemala and Costa Rica that 83 people died and over 200 were injured. This tragedy was caused by several factors, including, above all, too many participants in this sports event (this was caused by an excessive number of tickets) and the inappropriate construction of the stadium from the point of view of ensuring safety. These factors first led to fan dissatisfaction and then panic, which ultimately led to the death of many people (<https://www.swissinfo.ch/spa/guatemala-recuerda-la-tr%C3%A1gica-avalancha-humana-en-su-estadio-nacional/47033956>).

A separate issue is the issue of stadium hooliganism, which in the past was a very big problem for all entities responsible for the safety of mass sports events. An example is an event that took place during the 2023/2024 football season in Poland. During a league match between Śląsk Wrocław and Pogoń Szczecin played in February 2024, fans of the Śląsk Wrocław team repeatedly threw objects from the stands onto the pitch, which could have endangered the health of the players playing in the match. After hitting the head of Pogoń Szczecin goalkeeper Valentin Cojocaru with a plastic bottle, the referee of this match, Szymon Marciniak, decided to stop the match for a few minutes and threatened that if such a dangerous situation was repeated, he would end the match with a victory for the team from Szczecin (<https://gol24.pl/pko-ekstraklasa-przerwany-mecz-slask-wroclaw-pogon-szczecin-bramkarz-valentin-cojocaru-zostal-obrzucony-przez-kibicow/ar/c2-18303703>). While highlighting the issues related to the phenomenon of stadium hooliganism, it is worth emphasizing that, in retrospect, the expansion and strengthening of criminal provisions relating to illegal acts committed by hooligans during mass sports events has brought positive effects, leading to a visible reduction in dangerous hooligan-related incidents (Chlebowicz, 2018).

Another problem that people responsible for ensuring safety during mass sports events have to face are terrorist attacks, which in the past were repeatedly aimed at participants of mass events, and as T. Bąk points out, this problem has been particularly visible since the beginning of the 21st century (Bąk, 2012). The purpose of a terrorist attack may be to intimidate or force specific entities to behave in a specific manner, as well as to cause dramatic emotions in society (Cupryjak, 2015). An example is the terrorist attack directed at people leaving the Ariana Grande concert, which took place on May 22, 2017 at the Manchester Arena. The bomber detonated an explosive that killed 22 people and injured over 100 people. The entire world's horror due to this terrorist attack was even greater because the concert was organized for charity purposes (<https://www.france24.com/en/europe/20240414-hundreds-of-manchester-arena-attack-survivors-file-lawsuit-against-mi5>).

The examples presented are sufficient proof that entities responsible for ensuring safety during mass sports events should be comprehensively trained and experienced, and at the same time legally equipped with competences that will allow them to effectively carry out their tasks. One of such entities is the provincial commander of the State Fire Service, whose tasks in this matter are regulated in detail in the currently applicable Act on the Safety of Mass Events of 2009.

3. DEFINITION OF A MASS SPORTS EVENT

Pursuant to Art. 3 point 1 u.b.i.m. the term mass event – as a rule – means a mass artistic and entertainment event and a mass sports event (including a football match). When analyzing this legal provision, it should be emphasized that the legislator did not decide to establish a clear definition of the concept of a mass event, but only indicated its types. Due to this, and due to the subject of this study, it is necessary to focus directly on the statutory definition of a mass sports event.

Based on Article. 3 point 3 u.b.i.m. you can find out that a mass sports event is a mass event aimed at sports competition or popularizing physical culture, organized at:

- a) a stadium or other facility that is not a building in which the number of places available for people provided by the organizer, determined in accordance with the provisions of the construction law and fire protection regulations, is not less than 1,000, and in the case of a sports hall or other building enabling a mass event – not less than 300,
- b) an area enabling a mass event to be held, where the number of places available for people provided by the organizer is not less than 1,000.

Moreover, it is worth noting that the legislator distinguished football matches from among mass sports events. Such specification was conditioned by the need to cover sports events in this discipline with separate legal provisions. This need resulted directly from negative and dangerous incidents that occurred in the past during football matches played mainly in league competitions. In connection with this, it is also reasonable to point out that in Art. 3 point 4 u.b.i.m. the legislator indicated that the term „football match” should be understood as a mass sports event aimed at competition in the discipline of football, organized in a stadium or other sports facility in which the number of places made available by the organizer for people, determined in accordance with the provisions of the construction law and regulations regarding fire protection, is not less than 1,000. As M. Drózdź emphasizes, the separate regulation (in Chapter 3 of the Act on the Safety of Mass Events) of issues related to the safety of football matches raises many doubts, but is due to the fact that it is the most popular sport discipline globally, and therefore, during this type of sports event, legal order is most often violated (Drózdź, 2024).

Organizing a mass sports event is often a very demanding undertaking in terms of logistics, hence the cooperation of the organizer, security services or information services with entities whose statutory task is to ensure safety and public order is necessary for real peace and quiet during a mass sports event. It is also worth emphasizing that the participants of mass events themselves take an active part in securing it - however, their obligations are of a negative nature and consist in behaving in a way that does not threaten the safety of other people and complying with the provisions of the law, including the regulations of the mass event and the regulations of the facility where the event takes place (Suski, 2014).

4. TASKS OF THE PROVINCIAL COMMANDER OF THE STATE FIRE SERVICE IN THE CONTEXT OF ENSURING THE SAFETY OF MASS SPORTS EVENTS

In order to analyze the tasks that fall on the provincial commander of the State Fire Service in the context of the safety of mass sports events, it should first be emphasized that the legal position of the above-mentioned entity was defined in the Act of August 24, 1991 on the State Fire Service. In art. 11 in connection with Art. 12 of the above-mentioned Act

specifies a number of powers and obligations of the Provincial Commander of the State Fire Service, which include, among others:

- managing the provincial headquarters of the State Fire Service,
- controlling the coordination of construction projects in the field of fire protection,
- analyzing rescue operations carried out by entities of the national rescue and fire-fighting system in the voivodeship,
- analyzing the safety status of the voivodeship in the scope of tasks performed by the State Fire Service.

As K. Kwapisz-Krygel points out – the tasks that fall within the competence of the provincial commander of the State Fire Service reflect the tasks for which the Chief Commander of the State Fire Service is responsible, but are limited to the area of the voivodeship for which the given provincial commander of the State Fire Service is responsible (Kwapisz-Krygel, 2014).

With regard to mass sports events, first of all, it should be emphasized that in accordance with Art. 5 section 3 u.b.i.m. The obligation to secure a mass event rests with the organizer and, to the extent specified in this Act and other regulations, also with: the commune head, the mayor, the city president, the voivode, the Police, the State Fire Service and other organizational units of fire protection, services responsible for public safety and order in areas railways, health services, and, if necessary, other relevant services and bodies. In this regard, it should be noted that the legislator has explicitly indicated the State Fire Service as one of the most important entities responsible for ensuring safety during a mass event, and thus during a mass sports event. In general, it should be noted that the State Fire Service is obliged during a mass event to take action to fight fires, natural disasters, and other local threats (Drózd, 2020). It is also worth adding that in the context of the Act on the Safety of Mass Events of 2009, the legislator distinguishes the tasks and competences that have been statutorily transferred to the provincial commander of the State Fire Service, the district (municipal) commander of the State Fire Service, and institutionally to the entire State Fire Service.

When specifying the tasks that rest with the provincial commander of the State Fire Service in the context of ensuring the safety of mass sports events, it is appropriate to note three basic competences with which the entity in question has been endowed under the law. The above-mentioned competences certainly include:

- participation of the locally appropriate provincial commander of the State Fire Service in the provincial interdisciplinary team for the safety of mass events,
- the role played by the provincial commander of the State Fire Service in the context of the rules related to recording the course of a mass event – in particular the behavior of people participating in it, using image and sound recording devices,
- the influence of the provincial commander of the State Fire Service on stadium construction projects - in terms of the creation and operation of infrastructure affecting the safety of people participating in football matches.

In order to specify and systematize the above issues, it is first of all necessary to indicate the legal position and the role played by the provincial interdisciplinary team for the safety of mass events in securing mass events - including mass sports events. Legal provisions regarding this entity were introduced into the Act on the Safety of Mass Events by the amendment of September 11, 2015, which finally entered into force on November 26, 2015 (Drozd, 2018). Pursuant to Art. 11a u.b.i.m. it is an auxiliary body of the voivode ensuring the performance of tasks related to the safety of mass events. This entity is appointed by

the voivode, who determines its composition, detailed scope of responsibilities, mode of operation, and chairs it. Based on Article. 11a section 3, when specifying the composition of the discussed team for the safety of mass events, the legislator specified that it includes the locally competent voivodeship commander (Capital Commander) of the Police or his representative, and the locally competent voivodeship commander of the State Fire Service or his representative, as well as representatives of other government and local government administration bodies whose presence is deemed justified by the voivode. The most important tasks of the provincial interdisciplinary team for the safety of mass events include:

- analysis of threats related to the organization of mass events,
- supporting programs aimed at improving the safety of mass events,
- enabling the transfer of information about threats related to mass events between entities participating in the activities of the discussed team for the safety of mass events.

As C. Kąkol aptly points out in his study, the above-mentioned competences are of a very general nature and are focused mainly on mutual support of the entities included in it and the analysis of various types of threats related to the organization of, for example, mass sports events – including the observations that The Provincial Commander of the State Fire Service also has knowledge on this subject (Kąkol, 2020).

Another issue in which the provincial commander of the State Fire Service actively participates is directly related to the principles of recording the course of a mass sports event. Well, according to Art. 11 section 1 u.b.i.m. the organizer is entitled to record the course of a mass event, and in particular the behavior of people participating in it, using image and sound recording devices. As you can easily see, this provision states that recording the course of a mass event is, in principle, the organizer's right, not his obligation (Kurzeņa, 2020). The legislator provides for situations in which the organizer's right to record the course of a mass event ceases to be a right and becomes his obligation. This applies, among others, to the situation described in Art. 11 section 4 of the u.b.i.m., which consists in the fact that the voivode, in consultation with the provincial commander (Capital Commander) of the Police, with the provincial commander of the State Fire Service, and after seeking the opinion of the relevant Polish sports association, prepares a list of stadiums, facilities or areas where the course of the event is recorded. mass recording using image and sound recording devices is mandatory. Inclusion of a specific stadium, facility or area on the list is made by way of an administrative decision. What is also worth adding – if a specific stadium has not been included in the previously described list – both the provincial commander of the State Fire Service and the provincial commander (Capital Police Commander) may apply to the voivode to include a given stadium, facility or area on the previously mentioned list. This will happen if they come to such a conclusion in connection with their issuing an opinion on the necessary amount of forces and resources needed to secure a given mass sports event, reservations regarding the technical condition of the facility (area) and the expected threats.

The last competence of the provincial commander of the State Fire Service in the context of guaranteeing safety and public order of mass sports events, and more precisely – football matches, concerns the infrastructure issues, mainly of newly built football stadiums in Poland. Based on Article. 16a section 1 u.b.i.m., which was added to the content of the Act on the safety of mass events pursuant to Art. 1 point 8 of the Act of September 11, 2015 amending the Act on the safety of mass events and certain other acts

- stadium construction designs are subject to arrangements, among others, with the relevant provincial commander of the State Fire Service regarding the creation and operation of infrastructure affecting the safety of people participating in matches. football. This solution allows, for example, to minimize the risk of a situation in which, after the construction of a football stadium, doubts will arise on the part of the State Fire Service as to the adopted solutions to guarantee the safety of people who will be participants of mass events at a given stadium in the future.

5. THE CONCLUSION

Ensuring safety during mass sports events, which are characterized by great dynamics and unpredictability, is one of the most difficult challenges faced by entities responsible for the proper organization and conduct of sports events. These entities undoubtedly also include the provincial commander of the State Fire Service, who bases his work in this matter primarily on collected and analyzed past experience and the ability to adapt his actions to the currently applicable legal provisions.

Observing the contemporary high level of safety during mass sports events organized in Poland, it must be admitted that the work of individual provincial commanders of the State Fire Service is becoming more and more professionalized, which also makes it very effective. This opinion is due to the decreasing concern observed in society related to participation in mass sports events that take place in Poland. Taking into account past events, this mainly concerns the number and intensity of negative incidents that occur during football matches. Therefore, the work of all entities responsible for ensuring public order during mass sports events, including the provincial commanders of the State Fire Services, can be positively assessed.

REFERENCES

- Bąk, T. (2012). *Imprezy masowe – obiekt ataków terrorystycznych* [w:] Ura, E., Pieprzny, S., red., *Bezpieczeństwo imprez masowych*. Rzeszów.
- Chlebowicz, P. (2018). *Przestępstwa z ustawy o bezpieczeństwie imprez masowych z perspektywy polityki kryminalnej* [w:] Wetoszka, D., *Prawo sportowe*. Warszawa: C.H.Beck.
- Cupryjak, M. (2015). *Bezpieczeństwo obiektów, osób i imprez masowych w świetle zagrożeń terrorystycznych i przestępczych. Wybrane aspekty*. Szczecin: Wydawnictwo Naukowe Wydziału Humanistycznego US MINERWA.
- Drozd, K. (2018). *Bezpieczeństwo imprez masowych. Leksykon*. Lublin: BAOBAB.
- Drózdź, M. (2020). *Ustawa o bezpieczeństwie imprez masowych. Komentarz*. Warszawa: C.H.Beck.
- (2024). *Odpowiedzialność deliktowa i kontraktowa podmiotów sportowych – organizacja imprez masowych*. Warszawa: C.H.Beck.
- <https://gol24.pl/pko-ekstraklasa-przerwany-mecz-slask-wroclaw-pogon-szczecin-bramkarz-valentin-cojocar-u-zostal-obrzucony-przez-kibicow/ar/c2-18303703> [Acces: 2.07.2024].
- <https://sportowefakty.wp.pl/pilka-nozna/686256/w-pozarze-stadionu-zginelo-56-osob-drewniane-trybuny-okazaly-sie-smiertelna-pula> [Acces: 2.07.2024].
- <https://www.france24.com/en/europe/20240414-hundreds-of-manchester-arena-attack-survivors-file-lawsuit-against-mi5> [Acces: 2.07.2024].
- <https://www.swissinfo.ch/spa/guatemala-recuerda-la-tr%C3%A1gica-avalancha-humana-en-su-estadio-nacional/47033956> [Acces: 2.07.2024].

- Kąkol, C. (2020). *Bezpieczeństwo imprez masowych. Komentarz*. Warszawa: Wolters Kluwer.
- Kotowski, W., Kurzępa, B. (2012). *Bezpieczeństwo imprez masowych. Komentarz do ustawy o bezpieczeństwie imprez masowych*. Warszawa: Difin.
- Kurzępa, B. (2020). *Bezpieczeństwo imprez masowych. Zarys problematyki*. Rzeszów: Oficyna Wydawnicza Politechniki Rzeszowskiej.
- Kwapisz-Krygel, K. (2014). *Ustawa o Państwowej Straży Pożarnej. Komentarz*. Warszawa: LexisNexis.
- Suski, P. (2014). *Zgromadzenia i imprezy masowe*. Warszawa: LexisNexis.
- Wiśniewski, B., Socha, R., Gracz, M. (2010). *Zasadnicze problemy prawno-organizacyjne bezpieczeństwa masowych imprez sportowych*. Bielsko-Biała: wyd. Wyższej Szkoły Administracji w Bielsku-Białej.

Legal act:

- The Constitution of the Republic of Poland of April 2, 1997 (Journal of Laws 1997, No. 78, item 483, as amended).
- Act of August 24, 1991 on the State Fire Service (consolidated text: Journal of Laws of 2024, item 127).
- Act of March 20, 2009 on the safety of mass events (consolidated text: Journal of Laws of 2023, item 616).
- Act of September 11, 2015 amending the Act on the safety of mass events and certain other acts (Journal of Laws of 2015, item 1707).

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PARTICIPATION OF THE YOUNG GENERATION IN CULTURE

Nowadays, participation in culture is not only about the consumption of provided cultural content but also involves the creation of content. It plays an important role in human life, especially for young people, due to its impact on their well-being. This paper aims to identify forms of participation in young people's culture. For this purpose, an analysis of the literature on the subject is performed, and a survey of students is conducted. The results of this research showed that respondents are primarily interested in activities that allow them to spend time with their peers, while participation in culture using the mass media, as well as in "high culture," is not of particular interest to them. Respondents claim that they commonly use modern technological solutions, but the Internet cannot replace personal participation in cultural events.

Keywords: culture, young people, participation, forms of cultural activity.

1. INTRODUCTION

Culture, which is the entirety of the "material and immaterial achievements of society" (Borys, 2021), values and ways of conduct adopted in communities, passed on to other communities and to subsequent generations (Gruchola, 2010), is one of those aspects of human life which man can live without, but they will not develop. Cultural needs, which are higher-order needs, are important for the development of an individual's personality. This is why participation in culture is so important, especially for young people shaping their value system.

Culture has incalculable importance for society – it is one of the factors that influences the emergence and development of social life (Kasperkiewicz-Morlewska, 2020). It provides emotions, aesthetic experiences, and enables adaptation to new conditions (Jurkiewicz, 2022). It is a common space of values and symbols which gives meaning to the community. Culture emphasizes the diversity of individual groups as well as individuals. It is focused on meaning, based on subjectivity, emotions and intentions. It offers a means of self-expression and enables the individual to pursue lifelong learning by experiencing the joy of discovery and exploration (Gonçalves, 2016). Being a combination

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of reproduction, processing and creation, it is an essential factor of social change (Szara, Frejtag-Mika, 2021).

Different expectations towards culture arise from individuals for whom it is no longer autotelic in nature, dedicated only to free time, but has become a means to achieve goals. When undertaking cultural activities, one expects an opportunity to create social relationships, but also to have entertainment and relaxation. Hence, culture should offer many experiences. Therefore, new phenomena should be noticed within it, which is a consequence of, among others, changes in lifestyle, development of new technologies or increase in the subjectivity of citizens (Bachórz, Stachura, 2015).

The aim of the paper is to identify forms of participation in culture among young people. To achieve the goal, an analysis of the literature on the subject was carried out in the field of economics, management, sociology, culture and health sciences; reference was also made to the existing data of the Central Statistical Office. Our own empirical research was also conducted on a group of representatives of the young generation - students of the Institute of Economics and Finance of the University of Rzeszów, using a survey questionnaire developed on the basis of the tool used in studies on participation in culture conducted by the Central Statistical Office.

The first part of the study, based on the analysis of the literature on the subject, presents the issue of participation in culture and emphasizes its importance for the individual, taking into account the role of modern technologies. The empirical part presents the results of the conducted survey. The forms of participation in culture preferred by the respondents, their use of modern technological and IT means in participation in culture, differences in participation in cultural events between urban and rural residents, and conditions and barriers determining these activities were analyzed and assessed.

2. THE CONCEPT AND MEANING OF PARTICIPATION IN CULTURE

The importance of culture for an individual is reflected by participation in it. Participation in culture, i.e. "inclusion of an element in a culturally regulated situation" (Cichosz, Lewicka, Molesztak, 2018) involves not only the consumption of cultural content, but also, among others, is based on their experience, assimilation, analysis, interpretation, modification (Rapior, 2024), exchange and use (Krajewski, 2011). Participation in culture is, therefore, characterized by a functional aspect, related to participation in the offer of cultural institutions, and an intellectual aspect as it is important for the development of an individual, their interests and abilities, but at the same time it enables the satisfaction of needs (Molesztak, 2015). It has an inclusive character, which results from changes in the interpretation of culture (Bachórz, Stachura, 2015), which is no longer treated as an autotelic value due to its impact on the economic (Jurkiewicz, 2022; Kutwa, 2022) and social aspects (Kutwa, 2022) the activity of individuals and the development of the economy. This impact is considered in three dimensions (Błaszczuk, Banaszak, 2020):

1. economic, which emphasizes the economic effects related to culture (Sanetra-Szeliga, 2018) since the consumption of cultural products leads to an economic boom in the creative sectors. Moreover, participation in culture, as a result of the development of individuals' creativity (Ilczuk, Krzysztofek, 2011), contributes to the improvement of the quality and increase in the value of human capital, which in turn is one of the determinants of economic growth (Roszkowska, 2013).

2. The quality of life of individuals as the consumption of cultural content is significant for the well-being of individuals for whom post-material values are important. Participation in culture activates social and civic activities, enables building social relationships and social advancement; has an impact on physical (Cohen, 2006; Cohen, Perlstein, Chapline, Simmens, 2006) and mental health (Cohen, 2006; Cohen et al., 2006; Daykin, Mansfield, Meads, Julier, Tomlinson, Payne, Grigsby Duffy, Lane, D'Innocenzo, Burnett, 2018; Fancourt, Steptoe, 2018; Fancourt, Steptoe, 2019);
3. The foundation of social order as the consumption of culture is a form of inclusion in social and public life. It serves the activation and inclusion of excluded social groups, alleviates social inequalities, and contributes to the growth of subjectivity (Bachórz, Stachura, 2015). It is associated with tolerance, openness to others, trust, as well as a sense of justice.

For an individual, participation in culture means active participation in important spheres of life that they perceive as related to culture (Bachórz, Stachura, 2015). It takes various forms of involvement, including those made possible by the development of new media (Nosal, 2011):

1. institutional participation, regarding the use of the offers of cultural institutions, such as theatre, cinema, cultural center, museum or philharmonic, as well as its frequency.
2. Mass communication, i.e. content transmitted by the media (including television, radio, press, books, Internet).
3. Everyday activities during which the individual is not only a recipient of cultural content, but also becomes a producer (e.g. playing a musical instrument, running a blog, making amateur films or getting involved in organizing events, etc.).

The presented forms show that participation in culture goes beyond the institutional context. It means, in particular, one's own lifestyle, an ability to identify with external objects and critical activity. It is motivated by interest, which results in being a competent, conscious recipient (instead of only consuming cultural products) (Bachórz, Stachura, 2015).

Transmission via modern technological and IT means plays an important role in participation in culture, and is one of the main cultural determinants (Hysa, 2016). The development of new media makes it easier for cultural institutions to reach recipients, enables individualization of the offer, and contributes to the formation of new recipient behaviors. As a result, participation in culture is expanded and the recipient becomes a more active and engaged participant in the circulation of cultural content. It is involved in the process of creating this content, at the same time transferring it outside the institutional system. He absorbs them and creatively modifies them, creating new cultural texts in place of their reproduction. As a result, the boundary between the creator and the recipient of culture disappears, and a complementary creator-work-recipient relationship is created (Bachórz, Stachura, 2015).

New technologies cause a decline in interest in traditional forms of culture, resulting in the "deinstitutionalization" of culture (Hysa, 2016), leading to limited contact of an individual with cultural goods. Modern communication solutions play a particularly important role in the lives of young people, which they use widely and their availability is obvious to them.

3. RESEARCH METHODS

The basic research question the answer was sought to in the conducted empirical research was: what forms of participation in culture do young people prefer?

The following specific questions were also formulated:

RQ1: Is participation in culture using modern technological and IT means a basic form for young people?

RQ2: Are there differences in cultural participation between urban and rural residents?

RQ3: What are the conditions and barriers to young people's participation in culture?

The research was conducted in February-March 2023 at the University of Rzeszow. It was attended by 193 students of the third year of the first cycle and the first and second year of the second cycle at the Institute of Economics and Finance, majoring in Economics and Finance and Accounting. Respondents completed the online survey questionnaire provided via Google Forms. Participation in the study was voluntary.

The research tool was a questionnaire developed on the basis of the individual questionnaire on population participation in culture DS-58 I, used in research conducted by the Central Statistical Office (GUS, 2020). The tool used included 27 closed, single- or multiple-choice questions, including those with the option to provide one's own answer regarding various forms of cultural activity. This study presents selected research results.

Table 1. Sociodemographic profile of the survey sample (n=193)

| Characteristics | Items | | Percentage |
|--------------------|--|-------------------------|------------|
| Gender | Female | | 78.2 |
| | Male | | 21.8 |
| Place of residence | Rural areas | | 51.3 |
| | Urban area up to 20K residents | | 10.9 |
| | Urban area up 20K–99K residents | | 10.9 |
| | Urban area up 100K–199K residents | | 20.2 |
| | Urban area up 200K–499K residents | | 5.7 |
| | Urban area with 500,000 residents and more | | 1.0 |
| Education level | Father | primary school | 2.1 |
| | | basic vocational school | 59.6 |
| | | secondary school | 25.4 |
| | | post-secondary school | 2.1 |
| | | college | 10.4 |
| | Mother | primary school | 4.7 |
| | | basic vocational school | 29.5 |
| | | secondary school | 28.0 |
| | | post-secondary school | 10.4 |
| | | college | 26.9 |

Source: own research.

The majority of respondents were women, who constituted 78.2% of the respondents, and men – 21.8%. The presented proportions determined according to the gender criterion correspond to the structure of students and result from the specificity of the fields of study in which the research was carried out. The average age of the respondents was 23.25 years. Most respondents were rural residents (51.3%), the rest (48.7%) lived in the city, but there was a large variation in its size in terms of the number of inhabitants. The presented

structure of respondents according to place of residence reflects the agricultural character of the region, which is characterized by the lowest percentage of population in cities compared to other voivodeships in the country, amounting to 41.15% (as of June 30, 2022) (Bank Danych Lokalnych, 2024).

The respondents grew up in families where the vast majority of parents had no more than secondary education – primarily basic vocational education, then secondary and higher education. The least number of respondents' parents completed post-secondary school or completed primary education. The characteristics of the group of subjects taking part in the survey are shown in Table 1.

4. THE RESEARCH RESULTS

Respondents were asked about the importance of culture for them. In their statements, 92% of them said that it was important (for 23% even very important), and not very important for only 8%. None of the respondents indicated that culture was completely unimportant. The obtained results emphasize the awareness of the importance of culture in the lives of the surveyed people.

Then they were asked about particular forms of cultural activity, first of all in the form of reading/listening to books. During the year preceding the survey, the vast majority of them (86%) read at least one book in paper version, 58.5% of respondents read the digital version of the book, and only every fifth listened to the book. Such results indicate attachment to the classic reception of the book. Reading it in paper version gives experiences that cannot be provided by modern solutions, including: in the form of audiobooks. The reason for reading literature was primarily interest, which was confirmed by 84.5% of respondents.

Unlike books, magazines and daily newspapers are not of great interest to respondents – the vast majority of them do not read paper newspapers at all, and slightly more than half read them in digital versions (Table 2). Modern solutions are also used more often by them to read information published in magazines.

Table 2. Reading newspapers and magazines

| Question and opinion | Structure of answers (%) | |
|---|--------------------------|--------------------|
| | in paper version | in digital version |
| How often do you read daily newspapers? | | |
| daily | 0.50 | 7.30 |
| once or several times a week | 2.10 | 20.70 |
| less than once a week | 15.50 | 24.80 |
| I don't read | 81.90 | 47.20 |
| How often do you read magazines? | | |
| weekly | 0.00 | 6.70 |
| once or several times a month | 5.70 | 21.80 |
| less than once a month | 17.60 | 20.70 |
| I don't read | 76.70 | 50.80 |

Source: own research.

Data from the Central Statistical Office emphasize the differences in expenditure on the purchase of cultural goods and services per person in a household, taking into account the place of residence - in cities they are not only higher, but at the same time they constitute a larger share in the average household expenditure on culture (GUS, 2022; 2023). The results of the conducted research did not show significant differences in reading books, newspapers or magazines between young people living in rural or urban areas, regardless of the form of using these cultural articles. However, it should be emphasized that the level of expenditure was not examined. Instead, the cultural activity was taken into consideration. At the same time, young people living in rural areas visit the library/reading room more often than respondents living in cities - almost every fourth respondent living in the countryside uses this form of cultural activity at least once every six months, including 11% of respondents at least once a month. This solution reduces spending on purchasing, especially books. In the case of respondents who live in cities, these values are 11.7% and 5.3%, respectively.

Taking into account other forms of participation in culture using the mass media, it should be noted that these are not popular solutions among respondents. Among the above-mentioned forms, respondents are most likely to watch films at the cinema. They also like to listen to the radio (Table 3). Research participants are not interested in watching a TV program or renting movies for a fee. In the presented aspects, there are no differences between those living in the countryside and in the city.

Table 3. Participation of young people in culture through mass media

| Question and opinion | Structure of answers (%) |
|---|--------------------------|
| How often do you watch a TV program? | |
| I don't watch | 34.7 |
| less than once a week | 32.1 |
| once or several times a week | 25.9 |
| daily | 7.3 |
| How often in the last 12 months did you use various forms of paid movie rental? | |
| I didn't use | 45.1 |
| 1 – 3 times a year | 15.0 |
| once every 2-3 months | 7.8 |
| once or several times a month | 19.7 |
| once a week or more often | 12.4 |
| How often do you go to the cinema? | |
| I don't go | 7.8 |
| 1 – 3 times a year | 52.3 |
| once every 2-3 months | 31.1 |
| once or several times a month | 8.8 |
| once a week or more often | 0.0 |
| How often do you listen to the radio? | |
| I don't listen | 15.0 |
| less than once a week | 20.7 |
| once or several times a week | 32.1 |
| daily | 32.1 |

Source: own research.

Among the forms of cultural activity in which one can participate primarily in person, respondents most often participate in social gatherings, meet to dance, and also like to visit historical monuments (Figure 1). They participate in sports events as spectators, but they also take an active part in the activities of sports and recreation centers, as well as cultural and community centers. In turn, the areas of their least cultural interest include events such as: opera/opera, circus events, magic shows, acrobatics shows, revues, as well as ballet/dance performances (over 90% of respondents did not participate in events of this type at all).

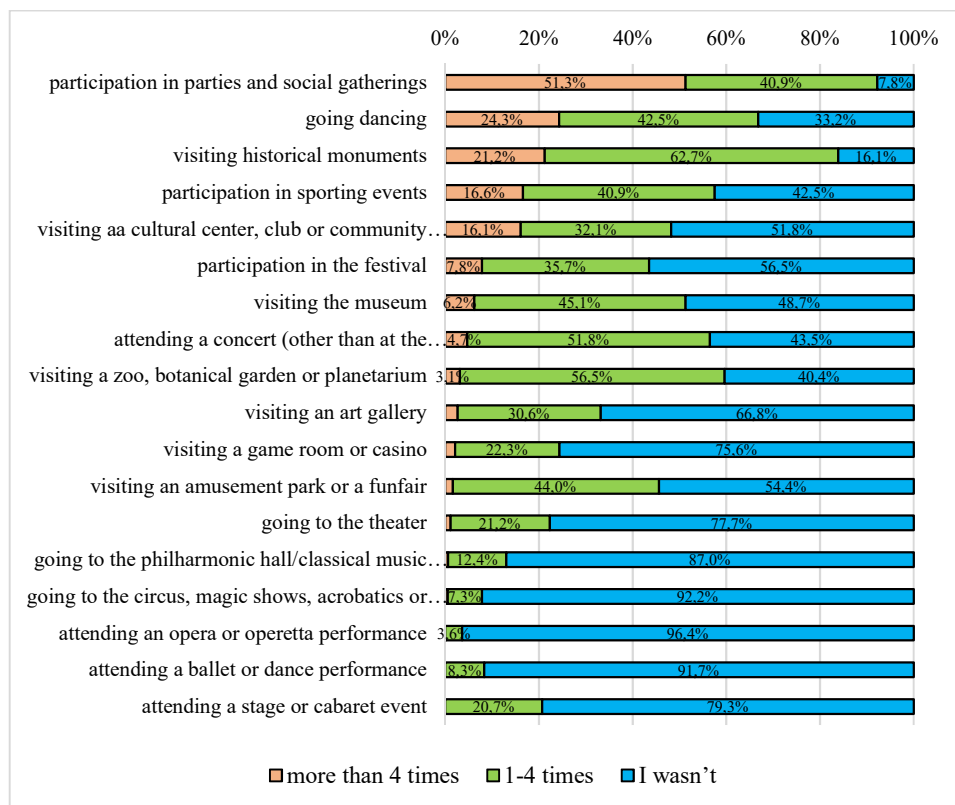


Figure 1. Participation of young people in cultural events throughout the year
 Source: own research.

The obtained results prove that young people are most interested in activities that allow them to spend time with peers and provide pleasure. They participate to a negligible extent in events that are described as "high culture".

In the cultural activities mentioned above, one can see the difference between the activities undertaken by the surveyed people living in the countryside and in the city. Rural residents go to museums much less frequently (56.6% of respondents had not been there in the 12 months preceding the survey compared to 40.4% of city residents), they also visit historical monuments less often (18.2% and 13.8% of respondents did not visit them at all).

People living in the countryside are much more likely to go dancing (to a disco, club, dance hall) – almost every third respondent went dancing at least 5 times in the year preceding their participation in the research compared to 19.1% of respondents from the city. Amusement parks and funfairs are also of greater interest. 52.5% of rural residents and 38.3% of urban residents were there at least once in the 12 months before participating in the study. In other cases, respondents gave similar answers, regardless of their place of residence (differences in answers were not significant). The received distribution of responses results from the limited access of rural residents to cultural institutions, and therefore there is an increasing interest in events organized cyclically and widely available.

Modern forms of communication play an important role in the cultural participation of young people. Respondents commonly use computers, primarily for professional or university purposes. The research showed that they also used the Internet in the context of their cultural activities. They use it to play movies, music, play computer games (86.5%), search for information related to culture (72.5%), listen to the radio or music or watch TV via this channel (68.9%), reading online or downloading files with newspapers or magazines (49.7%), buying CDs, books and other cultural products (37.8%). Only 1% of respondents do not use the Internet in the above-mentioned areas.

At the same time, using the Internet cannot, in the opinion of most respondents, replace direct participation in cultural events in the area of "high culture", such as going to museums/exhibitions, going to the theater or concerts, but also participation in sports events (Figure 2). However, watching television, reading newspapers and magazines, and listening to the radio are activities that can be completely or at least partially replaced by

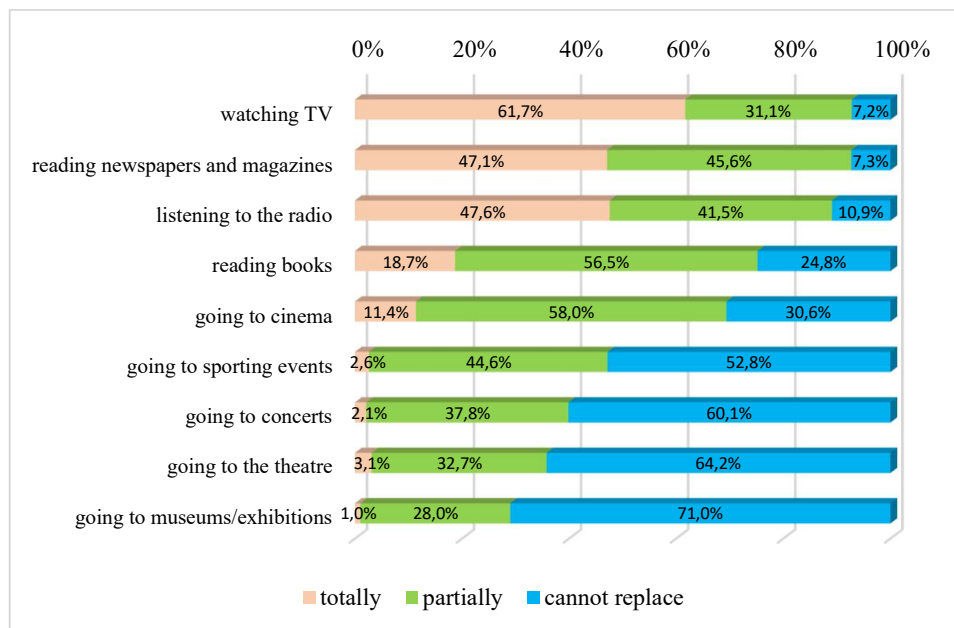


Figure 2. Possibility of replacing cultural activities via the Internet

Source: own research.

using the Internet. Partially, in the opinion of most respondents, online activity can replace reading books or watching films at the cinema. The responses received show that young people appreciate direct contact with culture and the experiences and emotions related to it.

The results of the conducted research proved that young respondents were conscious participants of culture because the basic motive for cultural participation is their interests, which was confirmed by 81.3% of them. Next, an opportunity to spend time with friends was mentioned (66.8%), i.e. culture is treated as a form of entertainment, spending free time, and then the recommendation of family or friends (52.3%), and the pursuit of learning something new (50.8%). The inner need to participate in cultural life was a stimulus for only almost every fourth respondent. Promotional activities in the form of attractive advertising aroused interest and encouraged 14.5% of study participants to participate in the cultural event.

Respondents also pointed to barriers that discourage participation in cultural events. The main factor limiting their cultural participation are ticket prices, which was indicated by 72% of people. Next, the main issues mentioned were the mismatch between the topics of events and their own interests (49.2% of responses), lack of time (35.2%), and the possibility of spending free time in a different, more attractive way (27.5%).

5. CONCLUSIONS

Participation in culture is important for an individual's development. This issue should be even more focused on young people because of the influence of culture on their well-being. The changes taking place, primarily in the form of universal access to modern technological solutions, change the form of participation in culture, which makes culture recipients actively involved in the process of its creation, instead of merely passively receiving the available cultural offer. This solution is particularly attractive to young people who create cultural content using available information and communication tools. Therefore, it is necessary to include young cultural participants in research (Zhang et. al., 2024; Duche-Pérez, 2023; Filiciak M. et.al., 2010).

The aim of the paper was to identify forms of participation in young people's culture. The conducted research showed that participation in culture through the mass media was not of particular interest to the surveyed students. In relation to reading, young people prefer reading books, which gives them experiences that cannot be provided by modern solutions. These solutions are preferred in relation to the reading of newspapers and magazines, which, however, young people are not interested in. It should be emphasized that in this area of cultural activity there are no differences between urban and rural residents.

Young respondents, however, are primarily interested in activities that allow them to spend time with their peers and provide pleasure, such as socializing or dancing together. They participate to a negligible extent in events that are described as "high culture". With regard to direct, personal participation in cultural events, place of residence is a factor differentiating the type of preferred cultural activities. This is due to the limited availability of cultural institutions for rural residents, which is why they actively participate in publicly available and periodically organized events.

Even though young people use modern technology on a daily basis, in the opinion of respondents, it cannot replace direct participation in "high culture" events, such as

going to museums/exhibitions, theaters or concerts. However, using the Internet may be a substitute for participating in culture through mass media, especially watching television, reading newspapers/magazines or listening to the radio, which are not popular activities among the surveyed group.

The results of the conducted research proved that young respondents were conscious participants of culture because they participate in it primarily due to their interests. At the same time, the costs associated with purchasing tickets for specific events, as well as the topics of these events that are inappropriate to their interests, limit participation in them. Therefore, it is necessary to consider greater individualization of the offer of cultural institutions and the establishment of direct dialogue by cultural institutions in order to attract young recipients.

REFERENCES

- Bachórz, A., Stachura, K. (2015). *W poszukiwaniu punktów stycznych. Rekonstrukcja dyskursu o problemach (nie)uczestnictwa w kulturze*. Gdańsk: Instytut Kultury Miejskiej.
- Bank Danych Lokalnych, (2024) [Access: 20.02.2024]. Access on the internet: <https://bdl.stat.gov.pl/bdl/>.
- Błaszczyk, M., Banaszak, E. (2020). *Spoleczne rozumienia kultury*. "Studia Socjologiczne", 2(237). DOI: 10.24425/sts.2020.132462.
- Borys, T. (2021). *Inspiracje kultury w tworzeniu aksjologii nowego paradygmatu rozwoju*. "Zarządzanie w Kulturze", 22(3). DOI: 10.4467/20843976ZK.21.019.14279.
- Cichosz, M., Lewicka, M., Molesztak, A. (2018). *Animacja społeczno-kulturalna. Współczesne wyzwania. Młodzież i seniorzy jako odbiorcy kultury*. Kraków: Impuls.
- Cohen, G. (2006). *Research on Creativity and Aging: The Positive Impact of the Arts on Health and Illness*. "Generations: Journal of the American Society on Aging", 30(1) [Access: 20.02.2024]. Access on the internet: <https://www.jstor.org/stable/26555432>.
- Cohen, G., Perlstein, S., Chapline, J., Simmens, S. (2006). *The impact of professionally conducted cultural programs on the physical health, mental health, and social functioning of older adults*. "Gerontologist", 46(6). DOI: 10.1093/geront/46.6.726.
- Daykin, N., Mansfield, L., Meads, C., Julier, G., Tomlinson, A., Payne, A., Grigsby Duffy, L., Lane, J., D'Innocenzo, G., Burnett, A. (2018). *What works for wellbeing? A systematic review of wellbeing outcomes for music and singing in adults*. "Perspectives in Public Health", 138(1). DOI: 10.1177/1757913917740391.
- Duche-Pérez, A.B., Vera-Revilla, C.Y., Gutiérrez-Aguilar, O.A., Montesinos-Chávez, M.C., Valdivia-Loaiza, A.H., Flores-Vilca, I.V. (2024). *Digital Culture, Youth, and Citizenship: A Systematic Review* [In:] Ibáñez, D.B., Castro, L.M., Espinosa, A., Puentes-Rivera, I., López-López, P.C., eds., „Communication and Applied Technologies. ICOMTA 2023. Smart Innovation, Systems and Technologies”, 375. Singapore: Springer. DOI: 10.1007/978-981-99-7210-4_51.
- Fancourt, D., Steptoe, A. (2018). *Community group membership and multidimensional subjective well-being in older age*. "Journal of Epidemiology and Community Health", 72(5). DOI: 10.1136/jech-2017-210260.
- (2019). *Cultural engagement and mental health: Does socio-economic status explain the association?* "Social Science and Medicine", 236(112425). DOI: 10.1016/j.socscimed.2019.112425.

- Filiciak, M., Danielewicz, M., Halawa, M., Mazurek, P., Nowotny, A., (2010). *Młodzi i media. Nowe media a uczestnictwo w kulturze*. Warszawa: NCK [Access: 05.06.2024]. Access on the internet: <https://www.nck.pl/badania/raporty/mlodzi-i-media-nowe-media-a-uczestnictwo-w-kulturze>.
- Gonçalves, S. (2016). *We and they: Art as a medium for intercultural dialogue* [In:] Gonçalves S., Majhanovic S., eds., *Art and Intercultural Dialogue*. Rotterdam: Sense Publishers.
- Gruchola, M. (2010). *Kultura w ujęciu socjologicznym*. "Roczniki Kulturoznawcze", 1.
- GUS (2020). *DS-58 I Uczestnictwo ludności w kulturze. Kwestionariusz indywidualny* [Access: 16.01.2023]. Access on the internet: <https://form.stat.gov.pl/BadaniaAnkietowe/2020/Ankiety/DS-58I.pdf>.
- (2022). *Kultura i dziedzictwo narodowe w 2021 r.* Warszawa-Kraków [Access: 17.05.2024]. Access on the internet: <https://stat.gov.pl/obszary-tematyczne/kultura-turystyka-sport/kultura/kultura-i-dziedzictwo-narodowe-w-2021-r-,2,19.html>.
- (2023). *Kultura i dziedzictwo narodowe w 2022 r.* Warszawa-Kraków [Access: 17.05.2024]. Access on the internet: <https://stat.gov.pl/obszary-tematyczne/kultura-turystyka-sport/kultura/kultura-i-dziedzictwo-narodowe-w-2022-r-,2,20.html>.
- Hysa, B. (2016). *Zarządzanie różnorodnością pokoleniową*. "Zeszyty Naukowe Politechniki Śląskiej, Seria: Organizacja i Zarządzanie", 97(1964).
- Ilczuk, D., Krzysztofek, K. (2011). *Znaczenie kompetencji kulturowych dla budowania kreatywności i kapitału intelektualnego Europy* [Access: 16.01.2024]. Access on the internet: https://www.nck.pl/upload/attachments/302457/znaczenie_kompetencji_kulturowych_dla_budowania_kreatywnosci_i_kapita_u_intelektualnego_europy.pdf.
- Jurkiewicz, J. (2022). *Wpływ ograniczeń sanitarnych COVID-19 na funkcjonowanie instytucji kultury w Polsce*. „Acta Politica Polonica”, 53(1). DOI 10.18276/ap.2022.53-07.
- Kasperkiewicz-Morlewska, K. (2020). *Życie kulturalne społeczności małomiasteczkowych na przykładzie wybranych gmin Roztocza Środkowego* [In:] Dąbrowska-Prokopowska E., Goryń P., Zaniewska M.F., eds., *Kultura w Polsce w XXI wieku. Konteksty społeczne, kulturowe i medialne*. Białystok: Wydawnictwo Uniwersytetu w Białymstoku.
- Krajewski, M. (2011). *Instytucje kultury a uczestnicy kultury. Nowe relacje* [In:] Śliwa, M. ed., *Strategie dla kultury. Kultura dla rozwoju. Zarządzanie strategiczne instytucją kultury*. Kraków: Małopolski Instytut Kultury [Access: 18.06.2024]. Access on the internet: <https://mik.krakow.pl/publikacje/strategie-dla-kultury-kultura-dla-rozwoju-zarzadzanie-strategiczne-instytucja-kultury/>.
- Kutwa, K. (2022). *Wpływ kultury na rozwój społeczno-gospodarczy w Polsce*. Warszawa: PIE [Access: 25.05.2024]. Access on the internet: <https://pie.net.pl/raporty/>.
- Molesztak, A.M. (2015). *Człowiek. Kultura. Uczestnictwo*. Bydgoszcz: Wydawnictwo UKW.
- Nosal, P. (2011). *Wolontariat jako forma uczestnictwa w kulturze*. "Kultura i Edukacja", 4(83).
- Rapior, W. (2023). *Uczestnictwo w kulturze jako tworzenie kultury* [Access: 11.06.2024]. Access on the internet: https://www.academia.edu/1909520/Uczestnictwo_w_kulturze_jako_tworzenie_kultury.
- Roszkowska, S. (2013). *Wpływ kapitału ludzkiego na wzrost w gospodarce polskiej – oszacowania wieloczynnikowej funkcji produkcji*. "Acta Universitatis Lodzensis, Folia Oeconomica", 281.
- Sanetra-Szeliga, J. (2018). *Kultura jako element ekonomii społecznej*. "Ekonomia Społeczna", 2. DOI: 10.15678/ES.2018.2.06.

- Szara, K., Frejtag-Mika, E. (2021). *Wpływ ograniczeń epidemiologicznych COVID-19 na działalność instytucji kultury w Polsce*. "Nierówności Społeczne a Wzrost Gospodarczy", 65(1). DOI: 10.15584/nsawg.2021.1.12.
- Zhang, Y., Ikiz Kaya, D., van Wesemael, P., Colenbrander, B. J. (2023). *Youth participation in cultural heritage management: a conceptual framework*. "International Journal of Heritage Studies", 30(1). DOI: 10.1080/13527258.2023.2275261.

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SUPPORTED EMPLOYMENT – THE WAY TO INTEGRATION AND INDEPENDENCE FOR PEOPLE IN A HOMELESSNESS CRISIS

The supported employment model for homeless people is based on a holistic approach that combines professional, housing, health, and social support. The innovative nature of the presented model includes students as assistants supporting people in a homelessness crisis since young people particularly appreciate professional activity as a way to develop and meet basic needs and, as a result, to solve problems. Students make a personal effort and, at the same time, invest in their professional future. Simultaneously, their enthusiasm and commitment to solving some problems and their innovative approach may be important for the people who are supported in a homelessness crisis. A key element of the supported employment directed at such people is an individual approach to the needs of each person and long-term cooperation between institutions. Thanks to this, people with the problem of homelessness have a chance to permanently integrate into the labor market and return to full independence in their lives.

Keywords: homelessness, supported employment, student assistant, social integration of people in the homeless crisis.

1. INTRODUCTION

Homelessness is one of the most serious social challenges of the modern world, which affects both individuals and entire communities. People with the problem of homelessness face a number of problems, including social exclusion, lack of access to basic services, as well as difficulties in returning to the labour market. One of the tools that can help overcome these problems is supported employment, which becomes a key element in the process of social reintegration of such people. It is an approach that is gaining popularity, both in Poland and around the world, as it gives a real chance for social and professional integration of people in a difficult life situation. It is becoming increasingly recognized as an effective method of social and economic integration that helps homeless people not only to return to the labour market, but also to rebuild their self-esteem and dignity.

The article will discuss the key aspects of supported employment for homeless people, its importance, benefits, as well as the challenges associated with the implementation of such programmes. The innovative approach involves the inclusion of support from students, whose resources may have significant impact on maintaining jobs by people with the problem of unemployment.

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People with the problem of homelessness, deprived of a stable place of residence, often remain on the margin of society, struggling with social, health and professional exclusion. Therefore, supported employment not only enables financial independence, but also contributes to the restoration of self-esteem and dignity.

In this article, I will discuss the supported employment model as a tool for the integration of people in the homelessness crisis, including student assistants in the help and activation.

2. HOMELESSNESS: SCALE, MAIN CAUSES AND CONSEQUENCES OF THE PROBLEM

The European Federation of National Organisations Working with the Homeless (FEANTSA) assumes that there is no single correct definition of homelessness. This organization has developed a typology of homelessness and housing exclusion called ETHOS (FEANTSA, 2017; www.feast.org/download/pl_7386404743356865659.pdf). It draws attention to three aspects that shape the concept of home ownership: the physical aspect – i.e. having an adequate shelter from adverse weather conditions, the social aspect – having a suitable place where you can maintain privacy and social relations, giving satisfaction, and the legal aspect – a person has a legal title to occupy a given space. Failure to meet any of the conditions makes a person homeless.

Homelessness is a global and multifaceted phenomenon that affects people regardless of age, gender, or background (Fitzpatrick, Pleace, 2012). The current understanding of a person in the homelessness crisis in Poland is based on several criteria that are in line with European guidelines and Polish legal regulations (Królikowska, 2020; Olech, 2014).

A person in the homelessness crisis is a person who does not have a roof over their head, which may mean that they do not have access to a permanent, safe place to live. A homelessness crisis may include a variety of situations, such as:

1. **People without shelter** – living in non-residential places such as streets, parks, abandoned buildings, train stations, or other public spaces.
2. **People using night shelters or homeless shelters** – staying in temporary shelters offering basic assistance, such as night shelters, homeless shelters, warming centers, or similar facilities.
3. **People at risk of homelessness** – individuals who are at risk of losing their homes, due to reasons like eviction, financial problems, family conflicts, or other challenging life circumstances.
4. **People in institutions** – individuals residing in institutions such as hospitals, prisons or care facilities, who do not have the opportunity to return to a permanent residence after leaving these institutions.

In Poland, the definition of homelessness is also linked to the Social Assistance Act (consolidated text Journal of Laws 2024, item 1283, art. 6, sec. 8), which recognizes as homeless any person not residing in a residential unit, as defined by tenant protection laws, municipal housing resources, or not registered for permanent or temporary residence. This broad definition accounts for various aspects of homeless individuals' life situations to better tailor the social assistance system to their needs.

In February 2024, according to data from the National Survey on the Number of Homeless People in Poland, 31,042 individuals in homelessness crisis were identified, 80% of whom were men (24,880) and 20%: women (6,162) (<https://www.gov.pl/web/rodzina/wyniki-ogolnopolskiego-badania-liczby-osob-bezdomnych---edycja-2024>; published

28/06/2024). This number includes both people living on the street and those using night shelters, homeless shelters, or other forms of assistance (protected, training, and supported housing). Among the individuals surveyed, 23,404 (76%) were residing in institutional facilities, while 6,648 (21%) were outside such facilities, in public spaces and non-residential places.

Homelessness is also considered in other categories: “involuntary homelessness” (related to external factors), and voluntary, or “self-inflicted homelessness” (exclusion due to internal factors) (Pindral, 2010). While it is stereotypically believed that homeless individuals are often addicts or have “chosen” this lifestyle, the reality is much more complex, as homelessness is often caused by multiple factors simultaneously (Olech, 2014). According to data from the 2024 Polish National Survey on Homelessness, “the main causes of homelessness, as identified by respondents, were alcohol addiction (19%), family conflict (17%), and eviction/deregistration from housing (11%). Other significant causes included relationship breakdown (8%), unemployment/job loss (7%), and poor health/disability (7%)” (<https://www.gov.pl/web/rodzina/wyniki-ogolnopolskiego-badania-liczby-osob-bezdomnych---edycja-2024>, published 28.06.2024).

Economic and employment-related causes are among the primary drivers of homelessness, as their consequences often trigger problems in other areas – a cascade effect that can lead to the loss of housing, family issues, and the inability to meet basic life needs (Dębska-Cenian, 2021). Providing a steady income through supported employment can alleviate some of these issues. Unemployment among people in the homelessness crisis in Poland is one of the key social problems, affecting both the scale of homelessness and the difficulties in escaping it. Such individuals face numerous barriers to accessing the labor market, including the lack of stable housing, health issues (both physical and mental), as well as limited professional qualifications (Dębska-Cenian, 2021; Dębski, 2020; Gałęcki, Kubiak, 2019). At the same time, homelessness leads to a range of negative consequences for both individuals and the society (Królikowska, 2020). People experiencing homelessness suffer from deteriorating physical and mental health, an increased risk of addiction, and further social marginalization. Prolonged homelessness also makes individuals lose their sense of self-worth and faith in the possibility of changing their situation. Society, in turn, bears the costs related to healthcare, social assistance, and lost opportunities due to the underutilization of human potential.

3. SUPPORTED EMPLOYMENT: KEY ELEMENTS

Supported employment is an approach aimed at helping individuals who face particular difficulties in finding and maintaining a job, to enter the labor market and integrate professionally (Abramowska, Miękina, 2020; Grzegorzczak, 2015; Miklewska, 2009; Włodarczyk, 2017). It is a comprehensive process that involves not only assistance in finding employment but also support before and during employment, with the goal of maintaining positive outcomes and changing previous habits as much as possible. It is highly effective in the professional activation of not only people experiencing homelessness but also individuals with disabilities, the unemployed for long periods, or those facing various difficult life situations.

The supported employment process consists of several key stages. The first step is the assessment of individual needs, skills, career goals, and the barriers that may hinder a person's ability to find and maintain employment. At this stage, it is important to identify

the type of support necessary to ensure the person can effectively function in the workplace. It is also vital to diagnose their strengths and potential limitations.

Based on the assessment carried out, an individual employment plan is created, which includes career goals, necessary training, and support forms such as coaching, career counseling, or psychological assistance (Gałecki, Kubiak, 2019). The next step involves actively searching for suitable job offers that align with the person's capabilities and aspirations as they return to the labor market while also dealing with other challenges (Abramowska, Miękina, 2020). At this stage, collaboration with employers who are ready to hire people with difficult backgrounds is crucial. Once employment is secured, individuals using supported employment services receive assistance in adapting to their new professional environment. This may include support in building relationships with colleagues, developing professional skills, as well as monitoring progress and overcoming difficulties.

Supported employment should not end once a job is found (Włodarczyk, 2017). Long-term assistance is often necessary to maintain employment and support professional development. This stage includes regular meetings with career counselors, coaching, or help in addressing workplace challenges.

4. SUPPORTED EMPLOYMENT MODEL FOR PEOPLE EXPERIENCING HOMELESSNESS

People experiencing homelessness represent a unique social group among the unemployed (Abramowska, Miękina, 2020; Grzegorzczak, 2015; Olech, 2006). They face a number of barriers that make it difficult to find and maintain employment. The most significant ones include the lack of stable housing, and consequently, the lack of a place to stay, difficulties in registering for work, receiving mail, health issues (including mental health issues), the absence of adequate qualifications or work experience, and social exclusion (Gałecki, Kubiak, 2019), as well as problems with the access to transportation and to the internet. Homelessness is often associated with the loss of identification documents, which may prevent legal employment (Królikowska, 2020). The process of recovering such documents is often lengthy and costly, further complicating the situation of individuals in the homelessness crisis. The inability to maintain personal hygiene and the lack of clean and appropriate work clothes can also be barriers both in job searching and in the workplace.

People experiencing homelessness often face stigma and discrimination from employers, who may be prejudiced against them due to their life circumstances (Abramowska, Miękina, 2020; Grzegorzczak, 2015). This stigmatization, in turn, reduces their chances of being hired, even if they have the necessary qualifications. Unfortunately, homelessness often means limited or no access to education, resulting in reduced professional qualifications, which makes it difficult to find a job, especially in a market that increasingly demands specialized skills. Even if a homeless person does find employment, maintaining that job may be challenging due to the aforementioned issues – unstable living conditions, health problems, and most importantly, the lack of support in dealing with everyday problems.

People experiencing homelessness often lack support from family or friends, which may lead to social isolation. The absence of a support network makes it more difficult to find a job and cope with workplace challenges.

Supported employment helps to overcome these barriers through an individualized and holistic approach tailored to each person, addressing their needs and abilities while working closely with employers. This form of activation combines professional support with other types of assistance, such as housing, health, or psychological support (Abramowska, Miękina, 2020; Grzegorzczak, 2015; Włodarczyk, 2017). This holistic model allows for a comprehensive solution to the problems that contribute to homelessness, rather than focusing solely on one aspect of an individual's life.

4.1. Assessing Needs and Individual Approach

Like all supported employment programs, those aimed at helping people in the homelessness crisis begin with identifying individual needs and tailoring support to them as well as to the participants' expectations (Włodarczyk, 2017). Although the program includes consistent elements-stages, it is essentially personalized and flexible. People facing homelessness frequently have to deal with diverse problems, thus choosing adequate assistance increases the effectiveness of supported employment. The first stage requires an individual assessment of each person struggling with homelessness in order to understand their specific needs, skills, and barriers related to employment. This includes analyzing the person's previous work experience so as to build a tailored support plan that outlines a path to reenter the labor market, utilizing the resources of the person exiting homelessness while minimizing previously experienced failures. Additional forms of support, such as housing or healthcare assistance, are also planned.

4.2. Preparation for Employment

People experiencing homelessness often have not worked for many years or have qualifications that are not competitive in the job market. According to data from the National Study on the Number of Homeless People 2024:

Most homeless individuals have vocational education – 41%, and 29% have primary education. Secondary education, including technical, was reported by 17% of respondents. The number of people in the homelessness crisis with higher education has increased by 0.57% as compared to the 2019 survey, and currently, people with higher education account for 4% of the total homeless population (source, published 28.06.2024).

Given these limitations, it is crucial for people facing homelessness to be adequately prepared to find, secure, and maintain employment. It is also vital for prospective employees to have the competencies and qualifications that make them attractive to potential employers, ensuring that they are viewed in the light of their professional skills rather than the issues that led to their exclusion from the job market (Miklewska, 2009). To achieve this, vocational training and courses are organized, helping participants in supported employment programs improve their qualifications required in the job market. Future employees also have the opportunity to improve their social competencies through workshops on interpersonal communication, job interview preparation, building self-confidence, and even time management, as their lives will significantly change once they are employed (Miklewska, 2013).

For many people experiencing homelessness, preparing for work also involves starting regular medical treatment, including addiction therapy, so that health problems or substance use do not affect their professional functioning (Dębski, 2020). An essential

component of supported employment is providing psychological support to individuals struggling with homelessness, who wish to return to the job market. Past failures and fear of radical changes can discourage them from making such changes, which is why psychological support in supported employment is crucial at every stage of the model. Professional activity may also be challenging, but with the right support, it can be managed effectively. Regular sessions with a psychologist and/or career counselor help participants cope with the stress and concerns associated with returning to the job market.

People experiencing homelessness who are re-entering or entering the job market for the first time may face difficulties establishing contacts with employers. Career counselors and psychologists not only provide information on where and how to look for jobs but also prepare participants for interviews and support them throughout the process of application for various jobs (Abramowska, Miękina, 2020; Grzegorzczak, 2015, Włodarczyk, 2017).

Given that many employers have reservations about hiring individuals in the homelessness crisis, an intermediary solution worth considering is offering internships and job placements. These allow employers to get to know potential employees, while people facing homelessness can experience professional activity. Psychologists and career counselors design such programs based on their knowledge of their clients' needs and capabilities, in collaboration with local companies that provide opportunities for gaining initial work experience. Incentives for employers to participate in supported employment programs for people experiencing homelessness often include wage subsidies or other financial incentives tied to involvement in these programs.

4.3. Support for Individuals in the homelessness crisis During and After Employment

People experiencing homelessness who have been out of the job market for an extended period of time often struggle to adapt to a new professional environment and a different daily structure. They may face challenges in following workplace rules, building relationships with coworkers, or managing time. Therefore, it is crucial to provide them with adequate support and to monitor their progress in the process of adaptation. Without this support, there is a risk of rapid burnout, difficulty in adjusting, or even job loss.

The supported employment model typically includes workplace support, which, as mentioned, helps individuals in the homelessness crisis adapt to new conditions and deal with any issues that may arise during employment (Włodarczyk, 2017). The forms of support provided can vary. In addition to psychologists and career counselors, mentoring and coaching are often used, giving those returning to the workforce a better chance of maintaining employment and gradually adapting to a new life. This approach also minimizes the risk of failure in retaining employment for people struggling with homelessness.

Group meetings are invaluable, where individuals experiencing homelessness can share their new experiences from workplaces, as well as their challenges and successes. The process of returning to professional activity is closely linked to a support plan tailored to the needs and capabilities of the individual. At every stage of its implementation, it is necessary to evaluate the intended outcomes so that changes can be made quickly and the plan can be adjusted flexibly, so as not to enforce potential problems or bad habits.

4.3.1. Innovative Form of Support

The innovative aspect of the presented supported employment program for people in the homelessness crisis lies in including students as assistants. Students, during coaching sessions, mentoring, or vocational internships (especially those studying social work,

psychology, economics, or management) or volunteering, can be excellent support for individuals experiencing homelessness who want to re-enter the labor market. By offering assistance at every stage of the project, they can provide not only emotional but also practical support, helping homeless individuals in adapt to a new work environment and deal with daily challenges. They possess up-to-date knowledge about the job market, job search techniques, and the latest recruitment trends, and, most importantly, they bring a lot of enthusiasm. Their energy and motivation can have a positive impact on the morale of the participants.

Students often have more flexible schedules than people working full-time, which allows them to dedicate time to volunteering or other forms of support. They are eager to engage in one-on-one assistance and are more available than people who deal with supported employment only on professional grounds. Moreover, they can create support programs or organize workshops, tailoring their involvement to the needs of homeless individuals. Including students as assistants ensures long-term support in the workplace for people in the homelessness crisis, enhances their persistence in maintaining life stability, physical and mental health, and helps them develop interpersonal and professional skills.

Being close to the latest technologies and working methods, young people can introduce innovative solutions in assisting individuals experiencing homelessness. They can usually build up attractive CVs, create profiles on professional platforms (like LinkedIn), and can teach others how to use new tools and apps to support job searching, as well as soft skills needed in the workplace.

Students' resource also consists in academic and personal networks that they can use to help homeless individuals connect with local companies offering positions within supported employment, as well as initiate contacts with non-profit organizations or mentors. Support from professors or university colleagues can also be valuable, for example, in the form of additional consultations or advice. Many universities and student organizations run pro bono programs where students offer free services (such as career counseling, legal aid, or psychological support) to people experiencing homelessness. They also organize workshops that teach essential job skills, such as computer literacy, time management, workplace communication, or entrepreneurship. For those interested in starting their own businesses, students can provide entrepreneurship training sessions and help create business plans. Such initiatives can be crucial for individuals trying to exit homelessness and return to the job market.

While supported employment offers many benefits, its implementation also faces certain challenges. Students often approach social problems with less rigidity, embracing new approaches and solutions. Their fresh perspective can lead to the development of unconventional strategies that may be more effective in specific cases. One of the greatest challenges is convincing employers to employ the homeless.

It is important to direct student involvement towards promoting supported employment among employers and contributing to the change of deeply ingrained negative stereotypes about people in the homelessness crisis. Employers have many concerns about the stability of employees who are in such crises, including worries about their mental health and the potential impact on the team (Dębski, 2020). Therefore, a crucial element of this program is the education of employers, e.g. by students' initiatives, as well as raising awareness about the benefits of employing individuals from challenging backgrounds.

Today's generation of students is often highly socially engaged and aware of social inequality issues. Thus, the social campaigns they create about supported employment constitute an excellent tool for educating the society and reducing the stigmatization of

people in the homelessness crisis. This sense of social responsibility may drive them to effectively help individuals in difficult life situations. With these qualities, students can play a significant role in the reintegration of homeless individuals into the labor market, offering support that is both professional and empathetic.

An important area of student activity in holistic employment programs is conducting surveys and interviews with people in the homelessness crisis to better understand their needs and barriers to employment. Based on this, as well as their observations from assisting their clients, students can be involved in assessing the effectiveness of this form of aid for homeless individuals, helping to develop even better support strategies. The foundation of such actions is, of course, the active participation of the students.

4.3.2. Institutional Support

Supported employment is only effective if individuals in the homelessness crisis are provided with basic living conditions, such as housing and healthcare (Miklewska, 2013; Dębski, 2020), as well as access to essential services. Otherwise, life difficulties may hinder their ability to maintain the job, leading to further marginalization. Therefore, one of the elements of supported employment for this group should be assistance in securing stable housing, which is vital to sustaining employment and full social integration. A good solution is to combine supported employment with access to transitional housing, which allows individuals in the homelessness crisis to take more confident steps toward changing their lives. It can be assumed that a combination of supported employment and the well-known European "Housing First" method by S. Tsembris, developed under the New York-based organization Pathways to Housing, could bring positive results (Strączyński, 2021).

Non-governmental organizations play a key role in the implementation of supported employment, as they have experience working with the homeless and understand the kind of support they need. Organizations like Caritas, the Barka Foundation, Monar Association, and Agape offer comprehensive support, which includes not only assistance in finding a job but also social care, psychological support, and legal assistance. Public institutions, such as employment offices, social welfare centers, and local governments, also play an important role. Their task is to create and implement support programs for homeless individuals and collaborate with employers and non-governmental organizations. Public institutions should also work to eliminate systemic barriers that hinder homeless individuals from returning to the labor market.

Facilitating access to healthcare, including specialists in addiction, mental health, and other issues (Gafecki, Kubiak, 2019), helps prevent potential failures in long-term employment retention, since challenges in these fields significantly impede effective functioning as an employee. Participation in social support networks and local initiatives (non-governmental organizations, support groups) also helps prevent life crises. Long-term support after securing employment is crucial for homeless individuals to retain their jobs and develop professionally. Without such support, they may experience rapid burnout, difficulties in adaptation, or even job loss.

People in the homelessness crisis seeking employment often face negative stereotypes about themselves (Dębska-Cenian, 2021). Changing this negative perception and combating prejudices can be achieved through informational campaigns targeting employers about hiring individuals with homelessness issues, offering training for employers on working with those who have experienced homelessness, and helping create inclusive workplaces. As mentioned earlier, it is also important for potential employees coming out of homelessness to be seen through in the light their skills and engagement in

work, rather than just the challenges they face. A comprehensive support system involving public institutions, non-governmental organizations, and businesses would be a good solution.

Moreover, securing long-term funding for supported employment projects for individuals in the homelessness crisis, such as from the state budget and EU funds, combined with government support programs, would enable the development of sustainable solutions rather than just temporary measures.

5. BENEFITS OF SUPPORTED EMPLOYMENT FOR INDIVIDUALS IN THE HOMELESSNESS CRISIS

Supported employment is an effective aid model because it provides comprehensive support that helps homeless individuals not only find work but also maintain it while integrating socially (Włodarczyk, 2017). This model offers people in the homelessness crisis a real chance to regain life stability and independence, which is crucial in the process of overcoming the issue.

For these individuals, the opportunity to work is essential in regaining control over their lives, rebuilding dignity, and enhancing self-worth. Employment gives them a sense of purpose, brings satisfaction, and allows for the formation of social connections. The value derived from feeling needed and appreciated by others is invaluable in the process of overcoming homelessness.

Securing a job also provides individuals with a stable income, which is necessary for maintaining housing and meeting basic needs. Regular income allows homeless individuals to cover essentials such as rent, food, and healthcare (Dębska-Cenian, 2021). Employment reduces their reliance on social assistance and enables them to independently work towards improving their financial situation. Financial stability, in turn, gives them the chance to support not only themselves but also their families, which constitutes the first step towards escaping homelessness and managing their lives independently.

Working in a professional environment fosters new social connections, which can support the process of overcoming homelessness. These individuals also gain a sense of belonging to a community, which is crucial for their social rehabilitation. Supported employment often includes participation in local social initiatives, further enhancing their integration into society.

6. SUMMARY

Supported employment for individuals in the homelessness crisis is one of the most effective tools in combating homelessness and social marginalization. With a personalized approach, comprehensive support, and collaboration with employers, individuals have a real opportunity to re-enter the job market and achieve social integration. Increased public awareness of homelessness issues and growing engagement from employers and public institutions create real opportunities to enhance the effectiveness of these programs. Continued involvement from all stakeholders – non-governmental organizations, public institutions, employers, and the beneficiaries themselves – is essential.

In the future, innovations and new technologies should be introduced to better tailor support to the needs of homeless individuals. Legislative changes, the development of support programs, and increased public awareness of homelessness issues are further steps that could contribute to a lasting solution. Supported employment is not merely a tool for

providing jobs; it is a “key” to dignity, independence, and a better life for thousands of people who have found themselves on the margins of society.

Social and professional integration of individuals in the homelessness crisis is extremely difficult, and unemployment rates in this group remain very high. Many individuals facing these two issues, even after finding temporary shelter, encounter significant difficulties in finding stable employment, leading to prolonged social exclusion and continued homelessness.

Addressing unemployment among homeless individuals requires a comprehensive approach that includes not only job search support but also access to housing, healthcare, education, training, and combating stigmatization. Assistance programs must be tailored to the specific needs of this group to effectively support their reintegration into the job market. Collaboration among various institutions and legislative changes are also necessary to facilitate the implementation of such programs. Proposals to increase the effectiveness of supported employment include such solutions as tax incentives for employers hiring individuals with homelessness issues, easing access to social housing, and strengthening workers' rights protection.

REFERENCES

- Abramowska, M., Miękina, A. (2020). *Aktywizacja zawodowa osób zagrożonych wykluczeniem społecznym*. „*Polityka Społeczna*”, 4.
- Dębski, A. (2020). *Sytuacja zdrowotna osób bezdomnych – wyzwania systemu opieki zdrowotnej*. „*Zdrowie Publiczne i Zarządzanie*”, 18, No 3.
- European Federation of National Organisations Working with the Homeless (FEANTSA) (2017). *ETHOS – European Typology of Homelessness and Housing Exclusion*.
- Fitzpatrick, S., Pleace, N. (2012). *The Statutory Homeless System in England: A Fair and Effective Rights-Based Model?* “*Housing Studies*”, 27, No. 2.
- Gałecki, Ł., Kubiak, M. (2019). *Zjawisko bezdomności – uwarunkowania psychologiczne, społeczne i zdrowotne*. „*Psychiatria Polska*”, 53, No 4.
- Grzegorzczak, A. (2015). *Zatrudnienie wspierane w Polsce i na świecie – teoria i praktyka*. „*Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie*”, 941.
- <https://www.gov.pl/web/rodzina/wyniki-ogolnopolskiego-badania-liczby-osob-bezdomnych---edycja-2024>; published 28.06.2024.
- Królikowska, A. (2020). *Osoba w kryzysie bezdomności w polskim systemie prawnym* [w:] Książopolski, M., ed., *Społeczne skutki kryzysów społecznych* (p. 25–40). Warszawa: Wydawnictwo Uniwersytetu Warszawskiego.
- Miklewska, A. (2009). *Wybrane problemy aktywizacji zawodowej osób niepełnosprawnych na podstawie programu autorskiego* [w:] Janowski, K., Artymiak, M., eds., *Człowiek chory – aspekty biopsychospołeczne*. No 4. Lublin: Bestprint.
- (2013). *Aktywność zawodowa jako forma rehabilitacji osób niepełnosprawnych* [w] Rottemund, J., Czupryna, K., eds., *Niepełnosprawność niejedno ma imię* (p. 147–163). Bielsko-Biała: Wyższa Szkoła Administracji.
- Ministerstwo Rodziny, Pracy i Polityki Społecznej (MRPiPS) (2024). *Sprawozdanie z ogólnopolskiego badania liczby osób bezdomnych (edycja 2024)*. Warszawa.
- Olech, P. (2006). *Aktywizacja zawodowa osób bezdomnych*. Warszawa: Wydawnictwo Fundacji Inicjatyw Społeczno-Ekonomicznych.

- (2014). *Bezdomność w Polsce – próba charakterystyki zjawiska* [w:] Kaźmierczak, T., Rymśza, M., eds., *Kapitał społeczny. Polska na tle innych krajów Europy Środkowo-Wschodniej* (p 45–63). Warszawa: Instytut Spraw Publicznych.
- Strączyński, J. (2021). *Job first w street-workingu*. Częstochowa: Wydawnictwo Stowarzyszenia Wzajemnej Pomocy Agape.
- Włodarczyk, P. (2017). *Metodyka zatrudnienia wspieranego – teoria i praktyka* [w:] Skrzek-Lubasińska, M., ed., *Wsparcie osób zagrożonych wykluczeniem społecznym* (p. 143–160). Warszawa: Wydawnictwo Naukowe SCHOLAR.

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IMPACT OF THE COVID-19 EPIDEMIC ON THE AGEING OF THE EUROPEAN POPULATION

The COVID-19 epidemic caused an increase in excess deaths worldwide, most of which were in the elderly. This study aims to identify the impact of the COVID-19 epidemic on reducing the intensity of change in population aging between 2020 and 2022 in selected European countries. Time-series analysis methods with trend and seasonality are used to estimate excess deaths. The study found that of the nearly 1.5 million excess deaths observed between 2020 and 2022 in the 28 European countries analyzed, almost 93% of these were in people aged 60 years and older. The results of the study indicate that in some countries (mainly central and eastern Europe), the scale of deaths due to the COVID-19 epidemic was large enough to clearly inhibit the aging dynamics of their populations.

Keywords: COVID-19 pandemic, excess deaths, population ageing, Europe.

1. INTRODUCTION

The ageing process is one of the most important issues facing societies in the world today. It is a consequence of 3 main factors, i.e. changes in fertility, mortality and migration (Preston et al., 1989). On the one hand, declining birth rates are reducing the proportion of the youngest people in the population, while on the other, lower mortality rates, especially in older age groups, are increasing life expectancy and the proportion of older people in the population. This is compounded by migratory movements, which modify the dynamics and sophistication of population ageing processes resulting from natural movement, especially as migrant populations are largely dominated by young people. Nevertheless, in most high-income countries, population ageing is expected to continue or even accelerate in the coming decades (World Bank Group, 2021).

These global ageing processes have been compounded by an outbreak of the SARS-CoV-2 virus causing COVID-19 disease since December 2019, which started in the city of Wuhan, Hubei Province, People's Republic of China (Onder et al., 2020), and within a short period of time evolved into an international public health emergency that has continued with varying degrees of severity until as late as 2022. As is usually the case with any epidemic, it is the elderly who have the highest risk of severe disease and the greatest risk of death, particularly if they also have other medical conditions. It is well known that immune system function deteriorates with age, making older people more susceptible to COVID-19 (Lloyd-Sherlock, Bachmann, 2020). Even before the COVID-19 epidemic,

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morbidity and mortality from infectious diseases, particularly respiratory infections, remained significant in the elderly population (Kassebaum, 2019). The progressive deterioration of immune function with age increases the susceptibility of older people to infections and the risk of serious complications if they become ill (Haynes, 2020). On the other hand, however, older people have the lowest average number of contacts (Hoang et al., 2021) that could potentially lead to infection and disease transmission, so their morbidity should be much lower than that of younger people (Bartoszko, Loeb, 2021). Therefore, the COVID-19 pandemic had a disproportionately negative impact on the elderly population residing in long-term care facilities, where the number of interpersonal interactions among the elderly is much higher (Cronin, Evans, 2022; Modig et al., 2021). Several aspects of long-term care homes (e.g., shared meals, group activities, staff rotation) make them an optimal environment for the rapid spread of many infectious diseases (Gardner et al., 2020). In addition, many residents of long-term care homes for the elderly have chronic diseases, which, in addition to old age, may further increase the severity of infection. Nevertheless, in most high-income countries, long-term care residents represent only a minority of the elderly population. The majority of older people tend to live alone or with a partner. In addition, in some regions, health care systems were overburdened, which may have made it difficult for seniors (or indeed anyone) to access necessary medical services. In turn, the medical industry's focus on the COVID-19 outbreak may have led to delays in the diagnosis and treatment of other diseases, possibly translating into increased mortality rates in future years. Additionally, the vaccination process against COVID-19 started at the beginning of 2021, which could have helped to protect the elderly from serious cases of the disease and its associated complications, reducing the risk of death associated with COVID-19. Therefore, the COVID-19 pandemic is expected to affect the rate of population ageing, due to increased mortality among older age groups.

The impact of a pandemic on population ageing may vary by region or country, actions taken by authorities, availability of healthcare and many other factors. Therefore, the main objective of the study was to identify the impact of the COVID-19 epidemic on reducing the intensity of change in population ageing between 2020 and 2022 in selected European countries. The study hypothesised that the pandemic had a negative impact on the rate of population ageing, increasing the number of deaths among the elderly and consequently reducing the rate of population ageing. However, the impact of the COVID-19 pandemic on the age structure of the population may have varied in different regions of the world. Some areas may have been more affected by deaths among the elderly than others, affecting the overall demography of the region.

Conducting this study is important because while the COVID-19 pandemic has been extensively studied in terms of its impact on public health and the economy, less attention has been paid to long-term demographic changes, including the impact on ageing populations. Existing studies mainly focus on the short-term effects of the pandemic, such as the number of deaths and the burden on health systems. As a result, there is a lack of detailed analyses of the structure of excess deaths by age and sex and their impact on demography in the long term. This study aims to fill this gap by offering a detailed analysis of excess deaths in selected European countries and their impact on the rate of population ageing. The study makes a new contribution by providing an understanding of how a pandemic may change the demographic structure at a macro and long-term level, and how these changes may vary by region. The results obtained may help to better understand potential future demographic challenges, such as the need to adapt social and health policies to new demographic realities after a pandemic. In addition, the study attempts to

estimate the structure of excess deaths by age and sex and the magnitude of excess deaths among the oldest population groups. Excess deaths are those deaths that would most likely not have occurred had the COVID-19 epidemic not occurred. Thus, this analysis provides a better understanding not only of the immediate impact of the pandemic on the older generations, but also of the long-term effects on the ageing processes of entire populations.

2. THEORETICAL BACKGROUND

During any epidemic, there is an increase in the number of deaths that are directly caused by the disease in question, as well as deaths that are indirectly related to the disease due to, for example, constraints on the functioning of health services. There is an academic consensus (Kontis, Bennett, Rashid et al. 2020; Beaney, Clarke, Jain et al. 2020; Leon, Shkolnikov, Smeeth et al. 2020) indicating that the most objective way to measure the impact of an epidemic on mortality in epidemiology and public health is through an indicator termed excess deaths, which refers to the number of deaths from all causes during an epidemic or other crisis exceeding the number of deaths we would expect under 'normal' conditions (Checchi, Roberts, 2005). The excess number of deaths caused by an epidemic, for example, is simply the difference between the observed and expected (under normal conditions) number of deaths. It can also be negative, meaning that fewer deaths occurred in a given month compared to the baseline period. This figure unfortunately cannot be known exactly, but it can be estimated in a number of ways. This kind of calculation will allow an objective assessment of the overall impact of the epidemic on mortality by showing both the direct burden of the epidemic (including those deaths due to COVID-19 that were not correctly diagnosed and reported in the country's cause-of-death diagnosis system) and its indirect impact on the number of deaths due to, among other things, disruptions in access to healthcare services due to other conditions in the most affected areas of the country. Statistics on excess deaths can be used for international comparisons, as they no longer contain restrictions on their proper measurement as the reported number of deaths from various causes. The World Health Organisation recommends that deaths due to COVID-19 be captured very broadly and counted in all probable or confirmed cases, unless there is a clear alternative cause of death that cannot be linked to COVID-19 disease (e.g. trauma). These deaths should not be attributed to another disease, e.g. cancer, and should be counted independently of pre-existing conditions that are suspected of causing COVID-19 severity (WHO, 2020). Despite this, many countries use different ways of counting deaths due to Covid-19 which means that the mortality data published daily by different countries related to the disease are not comparable. The Economist built a machine learning model to estimate the number of excess deaths during a pandemic according to which, globally, the total number of excess deaths is two to four times higher than the reported number of confirmed COVID-19 deaths (Wang et al. 2022). Therefore, in many countries and globally, the number of confirmed deaths due to COVID-19 is much lower than the full number of pandemic fatalities.

3. METHODOLOGICAL BACKGROUND

A key methodological challenge in estimating excess deaths is to determine the expected mortality as if the epidemic had never happened. The most common method of calculating the expected number of deaths over the period under study is to calculate a so-called historical average based on the values of deaths from several earlier periods. This was the method used by the Statistical Office of the European Union during

the COVID-19 epidemic by comparing the current number of deaths in a given month with the average number of deaths from 2016 to 2019 (Eurostat, 2023). However, this approach has some important limitations, i.e. it does not take into account long-term mortality trends (as can be evidenced by the statistically significant trend coefficient in the regression equation). For example, for countries with an upward trend in mortality, such as Poland, the average over several prior periods will be underestimated and vice versa in other cases.

Various methods of time series analysis were used to model the time series under study for men and women and the 20-year age groups in the study: forecasting based on the historical average, the indicator method of extracting seasonal fluctuations with a trend of both multiplicative and additive versions, the regression method with trend and seasonality described by zero-one variables. Data from two periods, i.e. a shorter period from 2015 to 2019 and a longer period covering the years 2010 to 2019, were used to forecast the weekly volume of deaths from 2020 to 2022. Ultimately, the model with the smallest error, measured by the standard deviation of the residual component and the coefficient of random variation, which determines what proportion of the average level of the phenomenon under study is accounted for by random variation, was selected. In general, it usually turned out that the data from the shorter period, i.e. 2015–2019, were better matched to the empirical data, i.e. had a smaller random component error than the data from the longer period, i.e. 2020–2019, regardless of the method used. At the same time, the data for deaths of young people, i.e. in the groups 0–19, 20–39 and sometimes for those aged 40–59, did not show a developmental trend (the trend parameter turned out not to be statistically significant) and the seasonal variations were weak (i.e. most or all of the weekly seasonality indicators turned out not to be statistically significant). Therefore, to model the time series of youth deaths and to estimate projections of these deaths for 2020–2022, the weekly average of 2015–2019 for individual weeks of the year was mostly used. These data were largely relatively random, especially for small countries where the law of large numbers did not reveal itself sufficiently, so the estimates in this case are subject to considerable uncertainty. Nevertheless, the majority of deaths were in people aged 60 years and over, so this did not have a significant impact on the estimate of the final excess deaths. On the other hand, for the time series of deaths of people aged 60–79 years and 80 years and over, the regression model with trend and seasonality described by zero-one variables was most often used, which in this case tended to have the smallest error and had a statistically significant trend and a large proportion of seasonality indicators. The fit to the empirical data was at a satisfactory level – the average percentage error was at the level of a few percent of the mean value of the explanatory variable (it was generally smaller for countries with larger populations, for which the law of large numbers worked better).

Excess deaths can only be calculated based on accurate, high-frequency mortality data from previous years. Unfortunately, few countries have statistical offices with the capacity to report the number of people who died in each month or week, and even fewer by age and sex of the deceased. Therefore, only 28 European countries for which data on the weekly structure of deaths by sex and age were available from at least 2015 were selected for the study (for Germany, data were available without sex breakdown). The study used data in the Eurostat database on weekly deaths by sex and age and population. The data were grouped into weeks according to ISO8601, which provides a standard definition of a 'week' (Eurostat, 2023). The collected data were grouped into weekly time series of deaths

of women or men by sex and 20-year age groups, i.e. 0–19, 20–39, 40–59, 60–79 and 80 years and over. On their basis, an attempt was made, using time series modelling methods, to estimate the magnitude of excess deaths in 2022–2022, which provided a starting point for further analyses, i.e. assessing the impact of the COVID-19 epidemic on population ageing.

4. EMPIRICAL RESULTS

The study found that nearly 1.5 million excess deaths occurred in the 28 countries studied between 2020 and 2022 (see Table 1), with the highest number in Italy (nearly 240 000), Germany (nearly 190 000) and Poland (nearly 180 000). Nevertheless, other studies show that the highest number of excess deaths in Europe occurred in Russia, whereby the end of 2021 alone it could be as high as around 1.1 million (Murkowski, 2022). In addition, the distribution of excess deaths over time was not uniform and developed with different severity at different times in all countries studied, i.e. successive 'coronavirus epidemic waves' affected European countries with different severity. In 2020, the highest number of excess deaths was recorded in Italy (around 100 000) and Spain (close to 70 000), in 2021 in Poland (close to 97 000) and Romania (over 72 000), while in 2022 in Germany (close to 98 000) (see Figure 1). As we know, it was Italy that was the first country in Europe to face the Covid-19 outbreak, where, via tourists from China, the virus spread throughout the country in early March 2020. The initial response to the development of the outbreak in many European countries was the so-called lockdowns, i.e. restrictions on the movement of people and the functioning of the economy across Europe, which somewhat delayed the development of the outbreak, but which immediately returned when restrictions were relaxed in subsequent periods.

Gender was a significant factor in the risk and eventual fatal response to Covid-19 infection, and in light of the findings, men appeared to be at higher risk of acute COVID-19 and death from the disease. In most of the countries studied, more excess deaths occurred in men than in women (but not in all), and in some cases (such as Sweden, Austria, the Czech Republic and Switzerland) it was even above 60% of all deaths. This was despite the fact that women clearly dominate in numbers among the elderly population most affected by the COVID-19 epidemic. Similar results are corroborated by the results of other studies, e.g. in relation to mortality rates in a normal situation during the COVID-19 pandemic in Poland in 2020, mortality rates for men increased more than mortality rates for women (Czerwiński, 2021). This is because, presumably due to differences in immune response, men are more likely to experience an acute course of COVID-19 and to die from the disease (Scully et al., 2020).

² In the author's earlier estimates, the number of excess deaths in Poland in 2020 was estimated at about 70,000 (Murkowski, 2021) (in the current model it is 61,000), and in 2021 at about 107,000 (in the current model it is 97,000) (Murkowski, 2022). The lowering of the estimates in relation to the author's earlier publications is due, firstly, to the use of not one, as before, but several methods of time series analysis and the selection of the method characterised by the best fit to the empirical data and, secondly, to the analysis of the time series of deaths for women and men by 20-year age groups and not, as before, for the total data.

Table 1. Number of excess deaths by sex and age in 2020–2022 (T – total, M – males, F – females)

| Description | | Total | per 100 000 | Error (%) | 0–19 | 20–39 | 40–59 | 60–79 | 80+ |
|-------------|---|---------|----------------|--------------|--------|--------|-------|--------|---------|
| Austria | T | 19 743 | 220 | 6,44 | -93 | 197 | -269 | 4 513 | 15 396 |
| | M | 12 587 | 284 | 6,27 | -92 | 156 | 115 | 3 493 | 8 916 |
| | F | 7 156 | 157 | 7,49 | -1 | 41 | -384 | 1 020 | 6 480 |
| Belgium | T | 27 413 | 236 | 6,09 | -229 | -242 | 2 581 | 12 065 | 13 238 |
| | M | 14 646 | 255 | 5,68 | -180 | -189 | 1 860 | 7 791 | 5 364 |
| | F | 12 767 | 217 | 7,11 | -49 | -53 | 721 | 4 274 | 7 874 |
| Bulgaria | T | 66 754 | 976 | 5,97 | -414 | 106 | 6 276 | 38 424 | 22 362 |
| | M | 35 066 | 1 059 | 6,01 | -288 | 59 | 3 540 | 21 387 | 10 368 |
| | F | 31 688 | 898 | 6,57 | -126 | 47 | 2 736 | 17 037 | 11 994 |
| Croatia | T | 20 983 | 543 | 7,08 | -62 | -87 | -493 | 11 417 | 10 207 |
| | M | 10 370 | 557 | 7,09 | -46 | -64 | -318 | 6 591 | 4 206 |
| | F | 10 613 | 531 | 8,18 | -16 | -23 | -175 | 4 826 | 6 001 |
| Cyprus | T | 2 103 | 232 | 10,63 | 44 | 38 | 247 | 756 | 1 018 |
| | M | 1 030 | 234 | 12,80 | 22 | 18 | 138 | 349 | 503 |
| | F | 1 073 | 231 | 15,07 | 22 | 20 | 109 | 407 | 515 |
| Czechia | T | 42 303 | 402 | 6,47 | -173 | -98 | 3 660 | 21 815 | 17 099 |
| | M | 25 543 | 493 | 6,40 | -97 | -133 | 2 491 | 14 816 | 8 466 |
| | F | 16 760 | 314 | 7,23 | -76 | 35 | 1 169 | 6 999 | 8 633 |
| Denmark | T | 4 183 | 71 | 4,08 | -80 | 27 | 341 | 1 044 | 2 851 |
| | M | 1 809 | 62 | 4,89 | -73 | 16 | 112 | 300 | 1 454 |
| | F | 2 374 | 80 | 4,89 | -7 | 11 | 229 | 744 | 1 397 |
| Estonia | T | 3 377 | 254 | 7,00 | -39 | -98 | 41 | 1 522 | 1 951 |
| | M | 1 643 | 259 | 8,48 | -19 | -87 | 46 | 973 | 730 |
| | F | 1 734 | 248 | 8,30 | -20 | -11 | -5 | 549 | 1 221 |
| Finland | T | 9 434 | 170 | 4,58 | -36 | -23 | -585 | 3 384 | 6 694 |
| | M | 4 276 | 156 | 5,51 | 0 | -48 | -409 | 2 189 | 2 544 |
| | F | 5 158 | 184 | 5,49 | -36 | 25 | -176 | 1 195 | 4 150 |
| France | T | 138 532 | 204 | 4,83 | -878 | 102 | 8 666 | 55 025 | 62 305 |
| | M | 81 697 | 249 | 4,31 | -504 | 26 | 8 322 | 34 773 | 30 957 |
| | F | 56 835 | 162 | 5,56 | -374 | 76 | 344 | 20 252 | 31 348 |
| Germany | T | 189 561 | 228 | 5,64 | -582 | 1 345 | 9 754 | 42 509 | 136 535 |
| | M | 99 632 | 243 | 5,01 | NA | NA | NA | NA | NA |
| | F | 89 961 | 213 | 6,34 | NA | NA | NA | NA | NA |
| Greece | T | 37 473 | 358 | 6,40 | -337 | -314 | 2 854 | 18 539 | 16 710 |
| | M | 19 456 | 380 | 5,97 | -184 | -190 | 1 881 | 10 687 | 7 244 |
| | F | 18 017 | 337 | 7,45 | -153 | -124 | 973 | 7 852 | 9 466 |
| Hungary | T | 41 087 | 424 | 6,61 | -212 | 245 | 7 973 | 19 978 | 13 044 |
| | M | 21 303 | 459 | 6,19 | -103 | 108 | 4 975 | 9 658 | 6 615 |
| | F | 19 784 | 392 | 7,52 | -109 | 137 | 2 998 | 10 320 | 6 429 |
| Italy | T | 236 153 | 400 | 5,72 | -1 629 | -1 265 | 9 728 | 80 303 | 149 016 |
| | M | 121 082 | 420 | 5,10 | -1 006 | -705 | 6 936 | 52 028 | 63 829 |
| | F | 115 071 | 381 | 6,48 | -623 | -560 | 2 792 | 28 275 | 85 187 |
| Latvia | T | 7 408 | 395 | 5,66 | -133 | -230 | 118 | 3 560 | 4 060 |
| | M | 2 531 | 291 | 6,87 | -81 | -195 | 238 | 1 577 | 964 |
| | F | 4 876 | 484 | 6,83 | -52 | -35 | -120 | 1 983 | 3 096 |

Table 1 (cont.). Number of excess deaths by sex and age in 2020–2022 (T – total, M – males, F – females)

| Description | | Total | per 100 000 | Error (%) | 0–19 | 20–39 | 40–59 | 60–79 | 80+ |
|-------------|---|---------|----------------|--------------|------|-------|--------|--------|--------|
| Lithuania | T | 20 989 | 748 | 5,41 | -219 | -523 | 3 180 | 10 296 | 8 255 |
| | M | 11 131 | 852 | 5,99 | -130 | -439 | 3 011 | 6 083 | 2 606 |
| | F | 9 858 | 657 | 6,75 | -89 | -84 | 169 | 4 213 | 5 649 |
| Montenegro | T | 3 320 | 537 | 11,06 | 23 | 39 | 120 | 2 129 | 1 009 |
| | M | 1 799 | 589 | 13,79 | 14 | 20 | 110 | 1 226 | 429 |
| | F | 1 521 | 487 | 14,04 | 9 | 19 | 10 | 903 | 580 |
| Netherlands | T | 38 363 | 218 | 4,64 | -15 | 507 | -324 | 17 282 | 20 913 |
| | M | 22 255 | 254 | 4,41 | -21 | 294 | 346 | 11 506 | 10 130 |
| | F | 16 108 | 182 | 5,42 | 6 | 213 | -670 | 5 776 | 10 783 |
| Norway | T | 5 218 | 96 | 4,66 | -57 | -95 | -232 | 1 265 | 4 337 |
| | M | 2 917 | 107 | 5,54 | -23 | -81 | -107 | 966 | 2 162 |
| | F | 2 301 | 86 | 5,96 | -34 | -14 | -125 | 299 | 2 175 |
| Poland | T | 178 363 | 474 | 5,00 | -960 | 1 788 | 19 557 | 86 264 | 71 714 |
| | M | 97 010 | 533 | 4,44 | -641 | 1 000 | 14 456 | 52 575 | 29 620 |
| | F | 81 353 | 418 | 5,89 | -319 | 788 | 5 101 | 33 689 | 42 094 |
| Portugal | T | 27 618 | 267 | 6,93 | -163 | -50 | 7 | 11 313 | 16 464 |
| | M | 11 937 | 242 | 6,55 | -127 | -23 | -126 | 6 310 | 5 861 |
| | F | 15 681 | 289 | 7,91 | -36 | -27 | 133 | 5 003 | 10 603 |
| Romania | T | 114 370 | 601 | 5,31 | 138 | 1 339 | 10 992 | 62 237 | 39 664 |
| | M | 60 109 | 651 | 5,10 | 125 | 883 | 6 433 | 33 576 | 19 092 |
| | F | 54 261 | 554 | 5,82 | 13 | 456 | 4 559 | 28 661 | 20 572 |
| Serbia | T | 51 689 | 760 | 8,25 | -218 | 303 | 2 812 | 37 328 | 11 289 |
| | M | 28 114 | 850 | 7,80 | -112 | 266 | 2 173 | 20 153 | 5 510 |
| | F | 23 575 | 676 | 9,31 | -106 | 37 | 639 | 17 175 | 5 779 |
| Slovakia | T | 28 027 | 516 | 6,57 | -46 | 46 | 1 425 | 14 967 | 11 635 |
| | M | 13 929 | 524 | 6,39 | -26 | 49 | 951 | 8 415 | 4 540 |
| | F | 14 098 | 508 | 7,82 | -20 | -3 | 474 | 6 552 | 7 095 |
| Slovenia | T | 5 095 | 242 | 6,98 | -43 | -85 | -145 | 1 539 | 3 829 |
| | M | 2 623 | 248 | 8,55 | -24 | -66 | -73 | 1 128 | 1 658 |
| | F | 2 472 | 236 | 8,52 | -19 | -19 | -72 | 411 | 2 171 |
| Spain | T | 136 493 | 288 | 5,37 | -431 | 88 | 6 662 | 57 582 | 68 332 |
| | M | 70 279 | 302 | 4,66 | -258 | 121 | 4 369 | 36 529 | 27 248 |
| | F | 66 219 | 274 | 6,33 | -188 | -61 | 2 290 | 21 050 | 41 090 |
| Sweden | T | 15 135 | 145 | 4,45 | -55 | -362 | 677 | 4 632 | 10 243 |
| | M | 10 049 | 191 | 4,64 | 26 | -337 | 1 031 | 3 126 | 6 203 |
| | F | 5 086 | 98 | 5,48 | -81 | -25 | -354 | 1 506 | 4 040 |
| Switzerland | T | 14 661 | 168 | 6,26 | 17 | 64 | -523 | 4 532 | 10 571 |
| | M | 8 827 | 203 | 6,18 | 29 | 72 | -245 | 3 217 | 5 754 |
| | F | 5 834 | 133 | 7,43 | -12 | -8 | -278 | 1 315 | 4 817 |

Source: Own compilation based on Eurostat data. Explanations: Error = $\frac{S_y}{\bar{y}} * 100\%$ – residual coefficient of variation – model error in the determination of the expected number

of total deaths calculated for the years 2015–2019, where: $S_y = \sqrt{\frac{\sum_{i=1}^N (y_i - \bar{y}_i)^2}{N}}$

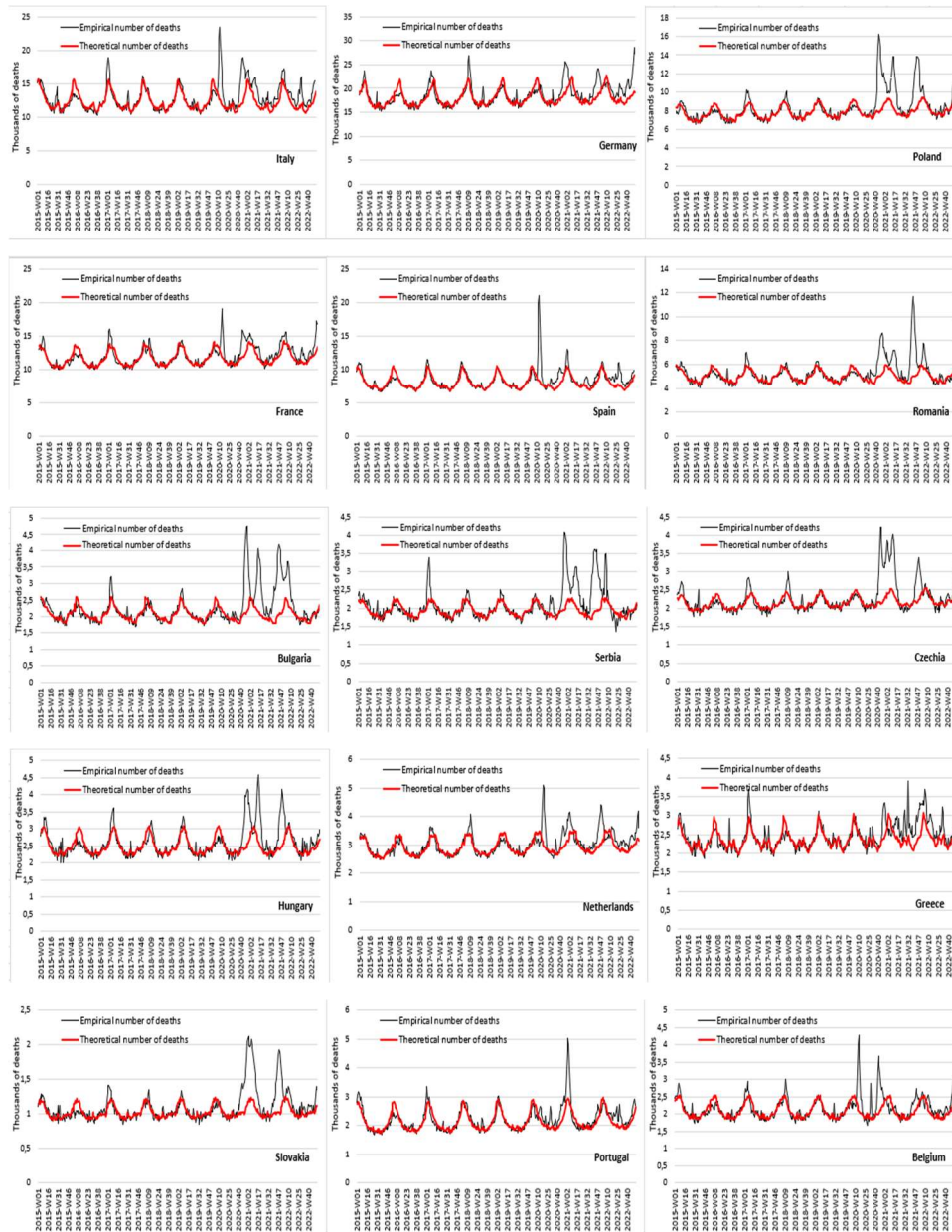


Figure 1. Time series of weekly empirical and theoretical number of deaths in selected European countries from 2015 to 2022

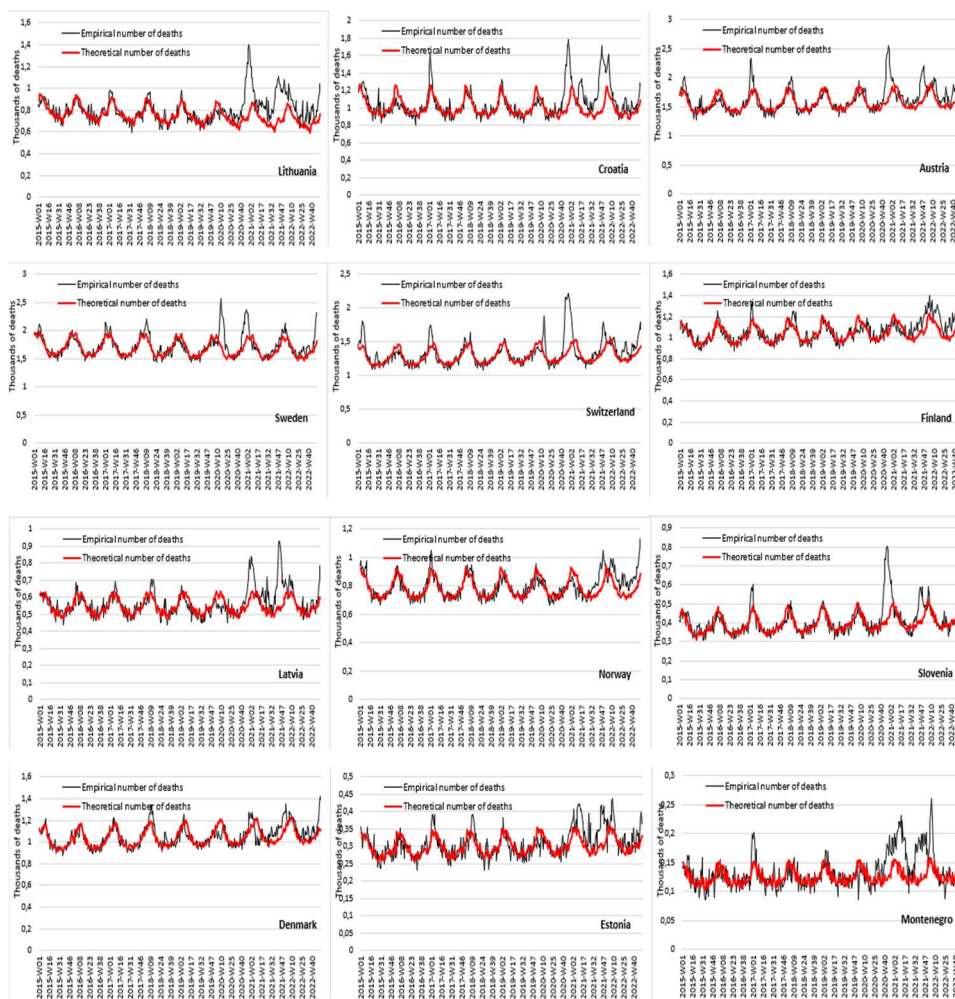


Figure 1 (cont.). Time series of weekly empirical and theoretical number of deaths in selected European countries from 2015 to 2022

Source: Own elaboration based on Eurostat data.

The best measure of the extent of the consequences of the COVID-19 epidemic for society is the number of excess deaths in relation to population. The study found that, among the 28 countries surveyed, Bulgaria was the country most affected by the COVID-19 epidemic, with as many as 976 excess deaths per 100,000 population – an average of 1059 men and 898 women. Among other countries, other Eastern European countries such as Serbia, Lithuania and Romania were also disproportionately affected by the COVID-19 epidemic (see Figure 2 and Table 1). In contrast, the countries least affected by the epidemic were mainly Northern European countries like Denmark, Norway, Sweden or Finland – these are countries with a fairly low population density (and thus less potential for the virus to spread) and with good health care, which could also probably have

contributed to their relatively small number of excess deaths relative to their populations. The study found that there were only about 71 excess deaths per 100,000 people in Denmark between 2020 and 2022.

The distribution of excess deaths in relation to population has also varied over time. The study found that in 2020, the highest number of excess deaths per 100 000 people was recorded in Bulgaria (around 225), Serbia (around 225) and Lithuania (around 190). In contrast, in 2021, the peak year of the COVID-19 outbreak, the highest number of excess deaths was recorded in Bulgaria, where, on average, as many as 600 more people per 100,000 people died than normal. Equally unfavourable results were then also recorded in Serbia (around 500 excess deaths per 100,000 people) and in countries such as Montenegro, Romania, Lithuania, Slovakia and Latvia (between 300 and 400 excess deaths). In 2022, on the other hand, excess deaths per 100 000 people were already much lower, although still high in some countries such as Bulgaria (around 150) and Lithuania (around 200).

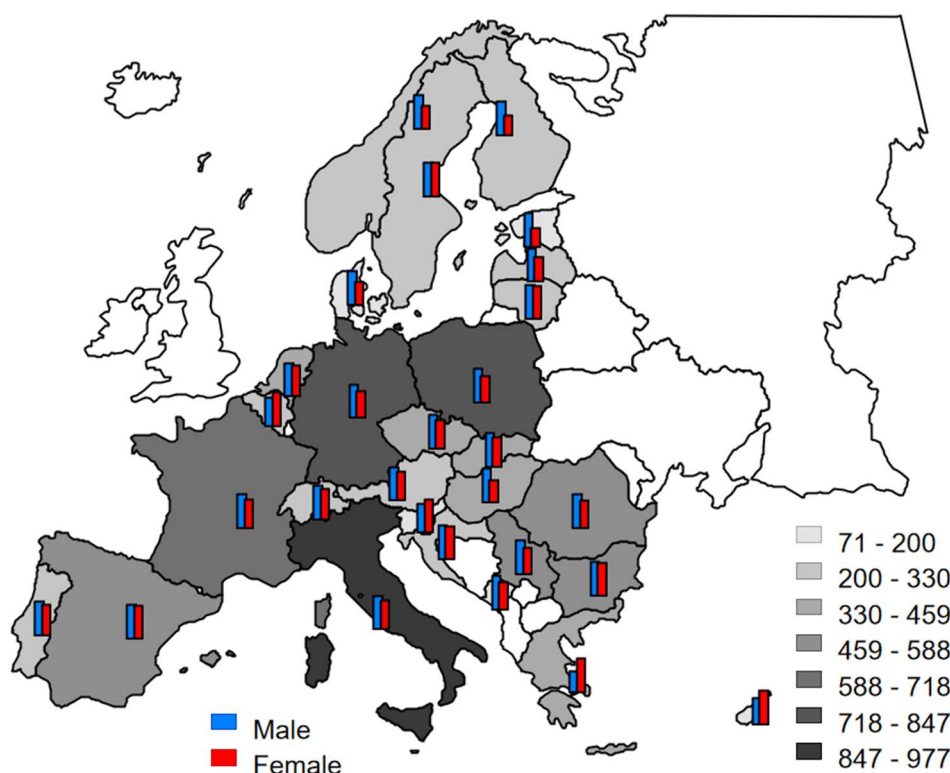


Figure 2. Number of excess deaths in the period 2020–2022 per 100,000 people

Source: Own elaboration based on Eurostat data.

For the purpose of analysing excess deaths by age group, we divided the population into five age groups, i.e. those aged 0–19, 20–39, 40–59, 60–79, 80 years and over. In light of the available data from many countries, it appears that it is the elderly population that has the highest risk of severe COVID-19 and death (Elbeddini et al., 2020; Kemenesi et al., 2020). The study found no evidence of elevated mortality in the younger population

between 2020 and 2022. In the 0–19 and 20–39 year old age groups, excess deaths were even negative in most of the countries studied (see Table 1), i.e. fewer deaths were recorded than would be expected with the average weekly deaths from 2015 to 2019.

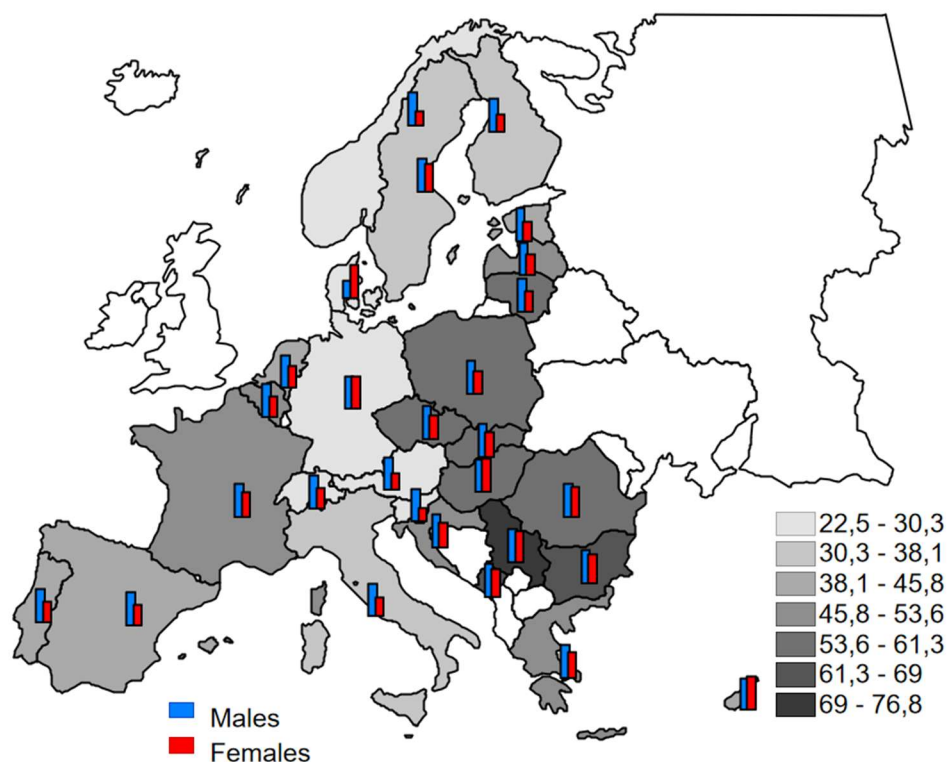


Figure 3. Percentage of excess deaths of people aged 60–79 among excess deaths of people aged 60 and over

Source: Own elaboration based on Eurostat data.

The study found that, of the nearly 1.5 million excess deaths observed between 2020 and 2022 in the 28 European countries analysed, almost 93% of them involved people aged 60 years and over. As is well known, it is in richer countries that the age structure of the population tends to be older than in poorer countries, which may help to explain why it is the economically more developed countries that have suffered more from the pandemic (Economist, 2020). The study observed that a statistically clearly higher mortality rate during the COVID-19 epidemic could only be observed for those aged 40 years and older, although there was some territorial variation in this in Europe, with a higher proportion of deaths among those aged 40 to 59 years recorded in Eastern Europe than in Western Europe (see Table 1). This is confirmed by the structure of excess deaths by age, i.e. among all excess deaths, the proportion of deaths among people aged 40–59 tended to be higher on average in central and eastern European countries (e.g. 19.4% in Hungary, 15.2% in Lithuania, 11% in Poland, 9.6% in Romania) than in western Europe. In some Western and Northern European countries such as Austria, Finland, Norway, Switzerland or Slovenia,

no statistically significant increased mortality was observed for people of this age during the study period. It could even be hypothesised that deaths of these people in eastern European countries could be largely avoided with better quality health services.

As already mentioned, the majority of excess deaths that occurred during the COVID-19 epidemic in the countries studied were deaths of people aged 60 years and over. The study found that the magnitude of excess deaths of the different age groups of the population was evidently influenced by the very structure of the population by age. Western European countries are countries where, in the structure of the population by age, the oldest age group, i.e. those aged 80 and over, account for a relatively large proportion of excess deaths among those aged 60 and over (see Figure 3). For example, in Norway, Austria and Germany, about 77% of excess deaths among people aged 60 and over were deaths of the oldest people, i.e. those aged 80 and over, and this percentage was more often slightly higher for women than for men. In Central and Eastern European countries, on the other hand, it was the other way around, i.e. most excess deaths among people aged 60 and over were deaths of people aged 60 to 79 (in the case of Serbia, this was as high as 77% of excess deaths among people aged 60 and over, and for Montenegro, Bulgaria, Romania and Hungary the percentage was over 60% – being more often slightly higher for men than for women).

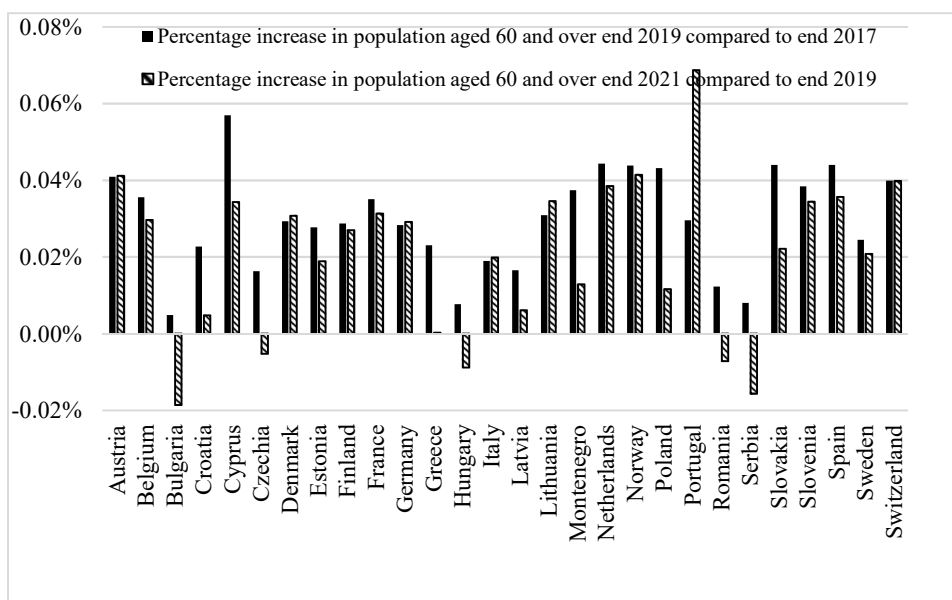


Figure 4. Percentage increase in population aged 60 and over at the end of 2019 compared to the end of 2017 compared to the end of 2021 compared to the end of 2019

Source: Own elaboration based on Eurostat data.

All these changes had an impact on the advancement of population ageing in the countries studied. The dynamics of population ageing because of the COVID-19 epidemic decreased in practically most European countries (see Figure 4). In some countries, even the sheer number of people aged 60 and over has decreased between the end of 2019 and

the end of 2021 (see in Figure 4 countries such as Bulgaria, the Czech Republic, Hungary, Romania and Serbia). Consequently, in some mainly central and eastern European countries, the number of people aged 60 and over as a proportion of the total population has stopped growing between 2020 and 2022, which means that the ageing of their population has stopped.

There is a clear negative correlation between the number of excess deaths per 100,000 people and the growth of the population aged 60 and over during the COVID-19 epidemic. The more excess deaths, the lower the growth of the population aged 60 and over – every 100 excess deaths more means on average 0.69 percentage points less ageing of people aged 60+ (see Figure 5). All this supports the hypothesis that the pandemic has had a negative impact on the rate of ageing by slowing or reversing the rate of ageing. However, it seems that these changes are only incidental and after the end of the COVID-19 epidemic, everything will return to previous trends, i.e. the rate of population ageing will continue to increase along with the process of human life expectancy.

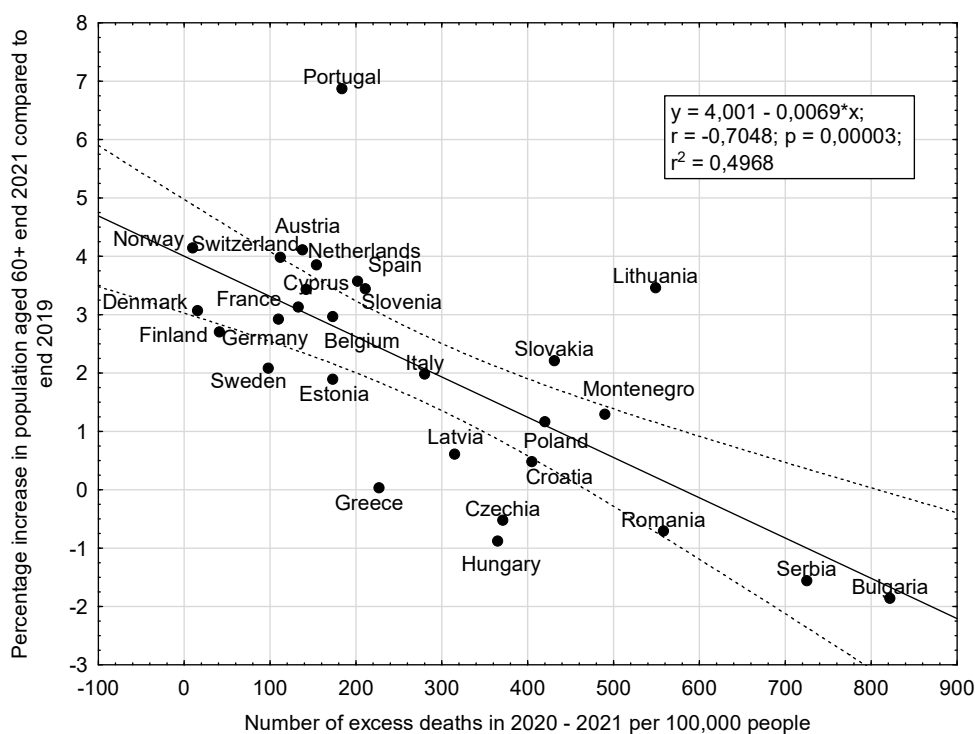


Figure 5. Relationship between the number of excess deaths per 100,000 people and the increase in the population aged 60 and over – end 2021 versus end 2019

Source: Own elaboration based on Eurostat data.

5. CONCLUSIONS

The COVID-19 pandemic caused widespread disruptions in economies and societies around the world, including reduced economic growth, increased public debt, reduced tourism, paralysed the functioning of health services or partly education systems. The

enormous impact of the COVID-19 pandemic on the course of various demographic processes cannot be overlooked either; mortality has increased in many countries, international migration and mobility have been significantly reduced, and rising unemployment and job insecurity have lowered fertility rates. As a consequence, long-term demographic trends have changed or been adjusted to some extent, including the population ageing process analysed here, which is mainly driven by long-term trends in fertility and mortality. The study ignores the impact of the COVID-19 epidemic on the decline in birth rates, which in addition may have further accelerated the ageing of the population, and which should be considered in further research. Nevertheless, a number of other studies, indicate that the pandemic clearly influenced the decline in birth rates in Europe or the USA, with a large proportion of young women deciding to postpone pregnancy because of the pandemic (Harper, 2021).

The impact of the epidemic appears to be greatest in densely populated areas, especially in those countries where the aging of the population is most advanced. As we know from many studies, it is the elderly who are most at risk of severe illness and death from COVID-19. Since death rates from COVID-19 are highest among the oldest people, the impact of the current pandemic on a given society depends largely on the proportion of the elderly among the total population and their living conditions. As we know, the total number of deaths can depend on both the structure of the population and the mortality rate by age group. The results of this study also confirm this, as of the nearly 1.5 million excess deaths observed in the 28 European countries studied, as many as 93% of them involved people aged 60 and older. Therefore, the pandemic has reduced the rate of aging, increasing the number of deaths among the elderly. The study also observed a reduction over time in many countries in the percentage of deaths among those aged 80 and over among all excess deaths in favour of lower age groups. Perhaps the positive impact of the COVID-19 vaccination program should be seen here.

On the basis of the analysis carried out, it can be concluded that the hypothesis posed at the beginning of the study, that the COVID-19 pandemic had a negative impact on the rate of population ageing by increasing the number of deaths among the elderly, which consequently reduced the rate of population ageing, has been confirmed. The results of the study indicate that the pandemic did indeed have a significant impact on the demographic structure, particularly through excess deaths in older age groups, which temporarily reduced the rate of population ageing in the countries analysed. In summary, the fact that a large number of excess deaths involved the elderly resulted in a decline in the dynamics of population aging in practically most of the European countries studied. In some Central and Eastern European countries, the process of population aging, as measured by the percentage of people aged 60 and over among the total population, has even stopped. However, these changes appear to be purely incidental, and once the COVID-19 epidemic is over, the population aging process will return to its long-term negative trends.

REFERENCES

- Bartoszko, J., Loeb, M. (2021). *The burden of influenza in older adults: meeting the challenge*. "Aging Clin Exp Res". 33(3). DOI: 10.1007/s40520-019-01279-3.
- Beaney, T., Clarke, J.M., Jain, V., Golestaneh, A.K., Lyons, G., Salman, D., Majeed, A. (2020). *Excess mortality: the gold standard in measuring the impact of COVID-19 worldwide?* "Journal of the Royal Society of Medicine", 113 (9). DOI: 10.1177/0141076820956802.

- Checchi, F., Roberts, L. (2005). *Interpreting and using mortality data in humanitarian emergencies*. "Humanitarian Practice Network", 52.
- Cronin, C.J., Evans, W.N. (2022). *Nursing home quality, COVID-19 deaths, and excess mortality*. "Journal of Health Economics", Vol. 82(102592). DOI: 10.1016/j.jhealeco.2022.102592.
- Czerwiński, A. (2021). *Nadmierna śmiertelność w Polsce w 2020 r.*, "Working Paper", nr 1. Warszawa: Polski Instytut Ekonomiczny.
- Economist (2020). *Why Rich Countries Are So Vulnerable to COVID-19*.
- Elbeddini, A., Prabaharan, T., Almasalkhi, S., Tran, C., Zhou, Y. (2021). *Barriers to conducting deprescribing in the elderly population amid the COVID-19 pandemic*. "Res Social Adm Pharm", 17(1). DOI: 10.1016/j.sapharm.2020.05.025.
- Eurostat (2023). *Excess mortality by month (demo_mexrt). Reference Metadata in Euro SDMX Metadata Structure (ESMS)*.
- Gardner, W., States, D., Bagley, N. (2020). *The Coronavirus and the Risks to the Elderly in Long-Term Care*. "J Aging Soc Policy", 32(4–5). DOI: 10.1080/08959420.2020.1750543.
- Haynes, L. (2020). *Aging of the Immune System: Research Challenges to Enhance the Health Span of Older Adults*. "Front Aging", 1. DOI: 10.3389/fragi.2020.602108.
- Harper, S. (2021). *The Impact of the Covid-19 Pandemic on Global Population Ageing*. "Journal of Population Ageing", 14. DOI: 10.1007/s12062-021-09330-w.
- Hoang, T. V., Coletti, P., Kifle, Y.W., Kerckhove, K.V., Vercruyssen, S., Willem, L., Beutels, P., Hens, N. *Close contact infection dynamics over time: insights from a second large scale social contact survey in Flanders, Belgium, in 2010–2011*. "BMC Infect Dis", 21(274) DOI: 10.1186/s12879-021-05949-4.
- Kassebaum, N. J. (2022). *Global, regional, and national burden of diseases and injuries for adults 70 years and older: Systematic analysis for the Global Burden of Disease 2019 Study*. "BMJ", 376. DOI: 10.1136/bmj-2021-068208.
- Kemenesi, G., Kornya, L., Tóth, G.E., Kurucz, K., Zeghib, S., Somogyi, B.A., Zöldi, V., Urbán, P., Herczeg, R., Jakab, F. (2020). *Nursing homes and the elderly regarding the COVID-19 pandemic: situation report from Hungary*. "GeroScience", 42(4). DOI: 10.1007/s11357-020-00195-z.
- Kontis, V., Bennett, J.E., Rashid, T., Parks, R.M., Pearson-Stuttard, J., Guillot, M., Asaria, P., Zhou, B., Battaglini, M., Corsetti, G., McKee, M., Di Cesare, M., Mathers, C.D., Ezzati, M. (2020). *Magnitude, demographics and dynamics of the effect of the first wave of the COVID-19 pandemic on all-cause mortality in 21 industrialized countries*. "Nature Medicine", 26. DOI: 10.1038/s41591-021-01254-4.
- Leon, D.A., Shkolnikov, V.M., Smeeth, L., Magnus, P., Pechholdová, M., Jarvis, C.I. (2020). *COVID-19: A need for real-time monitoring of weekly excess deaths*. "The Lancet", 395(10234), E81. DOI: 10.1016/S0140-6736(20)30933-8.
- Lloyd-Sherlock, P., Bachmann, M. (2020). *Coronavirus and Other Health Conditions: So Many More Questions Than Answers*. corona-older.com.
- Modig, K., Lambe, M., Ahlbom, A., Ebeling, M. (2021). *Excess mortality for men and women above age 70 according to level of care during the first wave of COVID-19 pandemic in Sweden: A population-based study*. "The Lancet Regional Health Europe", 4(100072). DOI: 10.1016/j.lanepe.2021.100072.
- Murkowski, R., (2021). *Nadmierna umieralność w Polsce podczas pandemii COVID-19 w 2020 roku*. "Wiadomości Statystyczne. The Polish Statistician", 66(7). DOI: 10.5604/01.3001.0015.0351.

- Murkowski, R. (2022). *Excess Death Rate in Eastern European Countries and Countries of the Former USSR during the COVID-19 Pandemic in the Years 2020 and 2021* [In:] Nowiński, W., Starzyk, K., Rymarczyk, J., eds., *Covid-19: Implications for the economy* (p. 201–217). Poznań: WSB in Poznań University Press. DOI: 10.58683/9788372053749.10.
- Onder, G., Rezza, G., Brusaferro, S. (2020). *Case-Fatality Rate and Characteristics of Patients Dying in Relation to COVID-19 in Italy*. "JAMA", 323(18). DOI: 10.1001/jama.2020.4683.
- Preston, S.H., Himes, C., Eggers, M. (1989). *Demographic Conditions Responsible for Population Aging*. "Demography", 26(4). DOI: 10.2307/2061266.
- Scully, E.P., Haverfield, J., Ursin, R.L., Tannenbaum, C., Klein, S.L. (2020). *Considering how biological sex impacts immune responses and COVID-19 outcomes*. "Nature Reviews Immunology", No. 1(6). DOI: 10.1038/s41577-020-0348-8.
- Wang, H. et al. (2022). *Estimating excess mortality due to the COVID-19 pandemic: a systematic analysis of COVID-19-related mortality, 2020–21*. "The Lancet", 399(10334). DOI: 10.1016/S0140-6736(21)02796-3.
- WHO (2020). *International guidelines for certification and classification (coding) od Covid-19 as cause of death, Based on ICD International Statistical Classification of Diseases* (16 April 2020).
- World Bank Group (2021). *COVID-19 and Aging Populations. What Do We Know? What Can Be Expected Based on Evaluation Findings?* Independent Evaluation Group.

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THE ROLE OF HUMAN CAPITAL IN THE INNOVATION MANAGEMENT PROCESS

The high dynamics of contemporary economic conditions, technological progress, and global competition make human capital extremely important in the context of implementing innovations that enable the broadly understood development and competitiveness of an organization. At every stage of the innovation life cycle, human capital, including the knowledge, skills, and experience of employees, plays a key role. This article aims to examine the importance of human capital as a factor supporting creativity and generating ideas, contributing to the creation and implementation of innovative solutions in organizations. It defines the concepts of human capital and innovation and characterizes the results of selected reports of national institutions regarding the analyzed constructs. Moreover, the importance of human capital in the context of organizational innovation and management of innovative processes is emphasized.

Keywords: human capital, capital, human capital management, innovation, innovation management process.

1. INTRODUCTION

Human capital management is important in ensuring the effectiveness of the organization and covers a wide range of activities, such as recruitment, training, development, and motivation. Through effective human capital management, organizations have the opportunity to create solid teams, increase productivity, creativity and efficiency, which may result in increased competitiveness and sustainable development. Moreover, the importance of human capital results from the fact that it is the main factor for the development of the innovation ecosystem, which can result in the promotion of a culture of creativity and the creation of innovative concepts. Therefore, investing in effective human capital management should be one of the organization's priorities, because employee involvement, their knowledge and skills are key factors in the effective functioning of the entity.

Moreover, innovation is an important element in the functioning of the organization because it enables development, adaptation to changes in the environment and building a competitive advantage in the variable and unpredictable environment in which a specific entity acts. Innovation management in an organization plays a key role in shaping its strategy, culture and performance. This process requires the establishment of appropriate

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processes and structures that support the generation, implementation and monitoring of innovative solutions. Moreover, encouraging the creation of an environment conducive to creativity often results in the creation of an innovative culture. Moreover, through effective innovation management, organizations can adapt to the changing environment and build a lasting position on the market.

2. LITERATURE REVIEW

2.1. Human capital

In recent years, both human capital and other intangible forms of capital have become not only the subject of analyzes by researchers, but also journalists, employees of public organizations and politicians have also expressed interest in this issue. This is since one of the key elements of the development of any organization is human capital, which is subject to interpretations in the literature on various levels and to various extents. Due to this and the interdisciplinary nature of this concept, it is impossible to create a universal definition that would be widely accepted.

The origins of the idea of human capital can be traced back to antiquity. Xenophon believed that “a specialized craftsman will do something better than an ordinary producer” (Stankiewicz, 1987), so it should be concluded that, apart from the distinction between the work of masters and their slaves, Xenophon also took into account the division of labor based on professional skills and indicated on the relationship between increasing productivity and employees having specific skills (Romanow, 1999). However, the genesis of the concept of human capital in the context of the role that humans played in various types of economic processes and investments in this type of capital has its origins in the economic theory presented by W. Petty and A. Smith.

W. Petty claimed that the basic factors influencing national wealth are land and work. He also noted that within the labour factor, capital is extremely important, because the professional qualifications and skills possessed by employees make it more efficient (Domański, 1993). In turn, A. Smith emphasised the need to increase investment in the sphere of education and to treat people and their skills separately as capital. He argued this primarily by saying that the competences a person has are his property but are also part of the capital of the society to which he belongs (Jagoda, Klimeczak, 2011; Kalita, 2015). The presented considerations allow for a division between two main approaches. The first of them was presented by W. Petty, whose perception of man as capital led to determining his value on this basis. However, the second trend, whose precursors include A. Smith, separately analyses the human being and the capital contained in him in the form of knowledge, skills, and predispositions.

The creators of the modern concept of human capital, including G.S. Becker, T.W. Schultz, and J. Mincer referred to I. Fisher's capital theory in their views. This researcher claimed that human capital is a set of knowledge, health, energy, and strength that characterises every person, and its components can be developed through investments in personal improvement and the acquisition of knowledge and new abilities (Stalończyk, 2012; Khaykin et al., 2020). G.S. Becker, on the other hand, treated human capital as the concentration of knowledge, skills, experience, and health that bring results in the form of increased efficiency and abilities of an individual or society. He believed that increased financial outlays within the above-mentioned categories can lead to an increase in individual efficiency, which will have a positive impact on society as a whole and overall

economic growth (Teixeira, 2014; Leoni, 2023). A similar attitude regarding investments in education and training was presented by T.W. Schultz, who believed that these investments contribute to economic growth as well as the income and well-being of employees. In turn, J. Mincer defined human capital by the value of investments in education, training and other forms of personal development and health, because these factors influence the increase in productivity and human potential in the labor market (Wieczorek-Szymańska, 2010; Magnac, 2024).

The concepts of the authors of the modern theory of human capital may have influenced researchers to distinguish many definitions of this construct, which are systematised in Table 1.

Table 1. Selected definitions of human capital

| Author (year) | Definition of human capital |
|-----------------------|--|
| Begg (1992) | “Knowledge and skills embodied in people” |
| Bratnicki (1999) | People who have lasting connections with the company and identify with its mission, demonstrating the ability to cooperate, creativity, competence, motivation, and the ability to think logically. |
| OECD (2001) | Knowledge, skills, abilities, and other individual attributes that facilitate the creation of personal, social, and economic well-being. |
| Edvinsson (2001) | “The combined knowledge, skills, innovation and ability of individual company employees to efficiently perform tasks”. |
| Gilejko (2002) | “Qualification resources, level of education, adaptability, and universality of innovative attitudes of employees”. |
| Dziuba (2005) | “Source of innovation and development”. |
| The World Bank (2017) | Human capital encompasses the knowledge, skills, and health that individuals invest and accumulate over the course of their lives, enabling them to realize their full potential as productive members of society. |
| Gierszewska (2017) | The skills of managers and employees, their knowledge, abilities, and motivation, as well as their behavior and attitudes towards work. |

Source: own study based on the literature.

Referring to the definitions of human capital presented in Table 1, it should be stated that this term is perceived in a multidimensional and heterogeneous manner. The diversity of interpretations may be related to the use of different types of human capital components and the scale and levels at which these concepts are analysed. This makes it difficult to practically apply the concept of human capital in a universal way, while allowing for a multidimensional view of its structure and its application in individual cases. Due to the above, it is not possible to indicate the same identification of human capital elements among the authors. However, it is possible to identify the presence of similar components, which are qualifications, social skills, and attitudes towards the organisation. Moreover, some authors create a correlation between human capital and innovation.

As B. Czerniachowicz and A. Wieczorek-Szymańska claim, to fully interpret the definition of human capital, it is crucial to consider the level at which this concept is treated: macroeconomic, organisation and individual. These scales are correlated with each other, and it is essential to recognize and evaluate the state of social capital at its various levels (Czerniachowicz, 2008; Czerniachowicz, Wieczorek-Szymańska, 2011).

In the context of the analyzed construct, it is also important to use tools aimed to measure it. However, the literature on the subject indicates difficulties that may occur in this matter (Dąbrowska-Karasińska, 2002; Skrodzka, 2009; Rutkowska, 2012; Górski, 2016). Among the important factors influencing this state is the lack of a systematic understanding of human capital and its components due to their multidimensionality and heterogeneity. Additionally, the unmeasurable nature of components of human capital contributes to the problems of constructing a universal measure. Despite the above-mentioned difficulties, in recent years there has been noticeable progress in various proposals for measuring this construct.

In the literature on the subject, attention is drawn to the fact that qualitative methods are mainly used to measure human capital. They cover a specific group of people or entire societies. The most frequently used are the analysis and assessment of the level of education of the society and the vital energy or level of health (Firszt, Jabłoński, 2022) by using human capital measures in the form of, e.g. the schooling universality index (Gleaser, 1994; Wolff, 2000), the number of years of education (Mankiw, Romer, Weil, 1992), life expectancy (Gupta, Mitra, 2004), health care expenditures (Gyimah-Brempong, Wilson, 2004). Measurement and analysis of this construct can be made from an external perspective, as part of the observation of the phenomenon at the macroeconomic level and investments in human capital at the organisational level, which emphasises the motivations that guide individuals when making decisions related to investments in their capital (Łukasiewicz, 2009).

Due to the key role played by human capital in all types of organisation, reports that enable analysis and assessment, management, and effective use of human resources are extremely important. Integrated reports are examples of documents containing important information regarding an organization's human capital. The literature on the subject emphasizes the importance of this type of reporting because it is a tool for communication between organizations and stakeholders who are interested in assessing the ability of a given entity to generate value in the long term (Walińska, et al., 2015).

Among the integrated reports developed by Polish enterprises, the following can be distinguished: Integrated Report 2022 of the TAURON Group, Integrated Report 2021 of the ORLEN Group, and Integrated ESG Report 2021 of the PGNiG Group. With regard to human capital, these documents contain information on, among others: key data and human capital management and the results achieved in this area.

The Integrated Report 2022 of the TAURON Group includes key data, e.g., the number of employees, the share of each gender among the employees, and the percentage of employees with details of their level of education. Moreover, in relation to human capital management, it considers activities undertaken as part of recruitment and implementation, personnel administration management, and entity efficiency, as well as employee and organisational development. Similar aspects are included in the Integrated Report 2021 of the ORLEN Group, but it mainly focuses on managing capital results. The ORLEN Group, striving to minimize the negative impact of demographic changes on the labor market, implements strategies for employee age management and creates plans for the development of skills that are currently important and forecast to be key to achieving business strategy goals.

Moreover, the above-mentioned reports emphasize that investments in the development of human resources have a positive impact on intellectual, social and productive capital, which in turn may translate into an increase in the financial capital of these enterprises. Furthermore, the PGNiG Group's 2021 ESG Integrated Report also draws attention to the

interdependence between human capital and natural capital and the correlation between human capital and innovative capital.

An interesting example of a report on human capital is a statistical analysis prepared by the Statistics Poland – “Human capital in Poland in 2016–2020”. The study aimed to identify the situation of human capital in Poland by analysing various indicators that describe it and influence its development. Due to their specificity, three main categories can be distinguished – quality-related, cost-related, and income-related. The first group of indicators includes various measures that describe Poland's inhabitants, which are associated with educational factors, health issues, and the labour market. The second group, described in the section on economic factors relating to the development of human capital, includes, among others, an analysis of the costs incurred in this respect by the state and local government units. The last category of indicators, with respect to income, focusses on the amount of remuneration of employees, which is linked to the degree of education.

The examples of reports presented prove that human capital can be analyzed due to various levels and perspectives. Moreover, it is correlated with other types of organizational capital. It should be emphasised that the production of human capital reports brings a number of benefits, both in the area of management and in the context of the overall strategy of the organisation. The reports enable analysis of the team's effectiveness, thanks to which strengths and areas requiring improvement are identified. In addition, they help identify future potential leaders.

2.2. Innovation and the innovation process

Like human capital, innovations are of interest to researchers in many fields of science, but also to all types of entities in many countries. They are crucial for the development of the economy, technology, and societies. Innovation processes include a series of activities, stages, and decisions aimed at implementing new ideas, products, services, or processes or improving existing ones. From the organisation's perspective, introducing innovative solutions is associated with many benefits, including: enabling maintaining a competitive advantage, developing employees, and maximising interest in the labour market among potential employees, increasing efficiency, and focussing on sustainable development by minimising the negative impact on the environment and society. However, for society, innovations are important because they create the prospect of creating new jobs by generating the development of economic sectors and the possibility of creating new industries and markets. Importantly, the implementation of innovative solutions improves the quality of life and minimises the problems faced by modern societies. Moreover, innovations can contribute to a more efficient use of resources, both natural and human.

The origins of the term innovation should be noticed already in the fourth century AD, when this term began to be understood as a process of renewal or change (Gruszevska et al., 2018). Researchers additionally indicate that the origin of this word can be derived from the Latin “*innovatio*” (Tidd, Bessant, 2011), which means creating something new, as well as “*innovare*” (Topoła, Praszczyk, 2002), understood as renewal. In the literature on the subject, it is impossible to distinguish one universally accepted definition of innovation because researchers representing different fields of science use different criteria and perspectives when interpreting this term. Based on the literature review, Table 2 presents definitions of innovation presented by various researchers.

Table 2. Selected definitions of innovation

| Author (year) | Definition of innovation |
|--|---|
| Schumpeter (1943) | The introduction of a new product, a new production process, a new source of raw materials, or a new market into the economy. |
| Pomykalski (2001) | “innovation is an activity that gives resources new opportunities to create added value for shareholders, consumers, and other interest groups”. |
| Leadbeater (2003) | “A long-term, interactive, and social concept, involving different people from different backgrounds with different competences”. |
| Griffin (2006) | “The directed effort of an organization to develop new products, new services, or finally to find new applications for existing products or services”. |
| Smith (2006) | “Innovation is a new idea, practice, or object”. |
| Knosala, Deptuła (2018) | “Any idea transformed into a specific action/thing that is characterised by a deliberately designed change of a novel nature, both in the strict sense and in general, intended to bring certain benefits”. |
| Oslo Manual 2018: Guidelines for Collecting, Reporting and Using Data on Innovation (2018) | “An innovation is a new or improved product or process (or combination thereof) that is significantly different from an entity's previous products or processes and that has been made available to potential users (product) or put into use by the entity (process)”. |

Source: own study based on the literature.

Analyzing the interpretations of innovation presented in Table 2, it is worth noting that it can be perceived as a one-time action aimed at introducing a specific solution, or as a long-term process involving various entities, such as public institutions, the private sector, non-governmental organizations, and society (Pomykalski, 2001). Moreover, innovation is treated as a change (Żero, 2018), and a benefit (Knosala, Deptuła, 2018). Furthermore, the authors also connect the concept of innovation with the development of knowledge (Dolińska, 2010).

As J.F. Jacko (2018) emphasised that novelty, effectiveness, and usefulness are the features that innovations should have. However, the components of innovation include cross-sector cooperation, idea generation, implementation and value creation (Cowan et al., 2009; Piersiala, 2023). Furthermore, integrating different disciplines such as social sciences, technology and the arts can lead to innovative approaches and solutions that integrate diverse perspectives. Organizations should implement initiatives and strategies that they deem most effective in delivering value to their stakeholders.

Closely related to the concept of innovation are innovation processes, the stages of which focus on identifying customer needs and innovation opportunities, generating ideas, working with information and knowledge about innovation, implementing innovation activities, and ensuring the successful expansion of innovation among customers (Şimşit et al., 2014). When trying to define the innovation process and its features, it can be said that the analysis of this term should begin with defining the perspective. The literature on the subject distinguishes various approaches to this concept; however, they contain common elements in the form of a sequence of actions that include the creation of an idea, the concept of creating a novelty, and its subsequent implementation (Knosala et al., 2014; Adams et al., 2006; D. Cropley, A. Cropley, 2014). However, the degree of complexity of

the innovation process depends on the entities participating in it and the intended goals and effects to be achieved within it. However, flexibility and adaptability are key factors in successfully managing the innovation process.

Measuring innovation and the data obtained as part of it are important for many entities, from those managing organizations, through stakeholders in the private and public sphere, to scientists and political decision-makers. In the past, companies have focused more on performance measures from a quantitative perspective, such as the number of new products or services per year (Markham, Lee, 2013). However, modern organizations are increasingly using a qualitative perspective to measure innovation, such as the organization's openness to change and risk-taking, or the impact of innovation on organizational culture.

Some authors identify the term "innovativeness" with the concept of innovation (Cho, Pucik, 2005). The literature on the subject indicates that it should be considered as organization's ability to create new and valuable elements, such as products, services, processes, business models or even new directions of organizational development (Hill et al., 2014). Moreover, innovativeness is viewed as a construct consisting of five dimensions, i.e. creativity, openness, future orientation, risk-taking and proactivity (Ruvio et al., 2014). From the perspective of enterprises, it should be stated that the role of innovation as a key source of competitive advantage is constantly growing, because the competitive success of an entity depends on the degree to which it is innovative (Bielski, 2000; Pomykalski, 2004; Penc, 2007). For this reason, measuring innovation is crucial for many organizations.

In the literature on the subject, there are many methods to measure the innovation of enterprises, but none of them has been considered universal. Key aspects of innovation activities that are the subject of literature research include financial indicators, market share, customer satisfaction, and flexibility in adapting to changing market conditions. However, it should be noted that there are also other important dimensions that are taken into account when assessing the ability to innovate in an organisation. These aspects include innovation strategy, knowledge management, organisational structure, company culture (Nappi, Kelly, 2018), and intellectual capital (Asiaei, Jusoh, 2015). Commonly used indicators measuring the innovativeness of enterprises include the number of innovations introduced and the variety of types, planned innovative solutions, or the number of patent applications and expenditure on research and development activities (Bielski, 2000).

Knowledge from activities undertaken to measure innovation is essential to develop solutions to social and economic challenges and issues that may be caused by demographic and climate change. Importantly, innovative activities should be supported primarily by people and institutions that make political decisions and influence the direction of actions within the government structure or public authority, because innovations are a key factor driving efficiency, economic growth, and the well-being of society (Mardiani et al., 2023).

Innovation reports are an important tool for analysing and assessing activities related to the approach to change and the introduction of new products. In organizations, such documents may cover various aspects of this matter, including strategies, results, expenses, barriers, successes, and development prospects. Reports on this issue on a national scale are equally important because they serve to assess and monitor a given country's progress in the field of R&D, innovation, and technology. On an organisational and national scale, reports can be based on benchmarking, as they are a valuable tool that allows one to understand one's position compared to others and to determine improvement areas in the field of innovation.

The 2022 report of Jastrzębska Spółka Węglowa S.A. is an example of a publication that contains activities undertaken in the field of innovation, considering human and intellectual capital. In 2022, the R&D+I sphere focused on introducing innovative solutions in the areas of mining, coking, and environmental protection in the JSW Capital Group. The report also emphasised the importance of financial resources related to the undertaken R&D+I works (JSW SA, Integrated Report 2022). Another interesting example of the approach to innovation in the integrated report is the publication of the Azoty Group for 2021. In defining the mission and vision for 2030, the company emphasized the importance of an innovation strategy, the aim of which is to provide modern, improved, high-quality products and maintain a long-term advantage competitive. This strategy assumes taking actions as part of innovative projects, developing an innovation structure, supporting corporate ventures, and innovations focused on limiting the negative effects related to the implementation of regulatory risks (Grupa Azoty, Integrated Report for 2021).

However, on a national scale, the Polish Agency for Enterprise Development undertook to examine the level of innovation of enterprises in the years 2017–2023, assuming annual monitoring of activities undertaken in this area. During the study, various aspects of innovation processes in organisations were taken into account. As part of the report, companies were divided into three categories: innovative, ineffective in terms of innovation and inactive in terms of innovation. The second group also consisted of organisations that did not implement the innovation project due to interruption, abandonment, or lack of completion, which prevented the implementation of the innovative solution. The first and second groups were considered as innovative companies, while the second and third ones created a group of non-innovative companies. Among the 1,787 enterprises analyzed, the largest group were innovative companies – 1,488 organizations. Companies that were considered non-innovative indicated the lack of appropriate infrastructure and financial resources as the reason for not undertaking innovative activities (PARP, 2022).

Reports on innovation in various types of organizations and on a national scale are extremely important due to the possibility of identifying the degree of introduction of innovative solutions and monitoring the progress of the innovation process. Moreover, these documents allow better resource management and effective risk management by identifying potential threats related to innovative activities. It may result in better adaptation to market, technological, and social changes. Reports relating to the innovative solutions implemented can have a positive impact on relations with stakeholders by creating a positive image of the given organisation or country.

3. DISCUSSION AND CONCLUSION

The analysis of the literature on the subject allows to conclude that both human capital and innovation are defined by researchers based on various criteria. The multiplicity of interpretations and, consequently, the lack of universal and widely accepted definitions, proves the great interest in these constructs, and the important role they play in modern economies and societies.

Considering the presented definitions of human capital, this term can be understood as a cost, resource, or investment. Moreover, attention should be paid to the presence of key elements of the expression analysed, which are qualifications, social skills, and attitudes towards the organisation. However, the analysis of the presented interpretations of the concept of innovation allows one to conclude that they refer to the introduction of new

elements, changes, and improvements in various spheres of life, covering areas such as business, technology, and society. They may constitute new products, services, procedures, or business models. It is important that these solutions are new, effective, and useful. Moreover, the innovation process includes several steps, starting from generating ideas, through research and development, to introducing innovations and adapting them to market conditions.

In the context of the considerations undertaken, it is extremely important to measure human capital and innovation on various scales – both within a given organization and the entire country or regions. These activities may be crucial not only for monitoring and assessing the progress of activities undertaken relating to these issues. They are also perceived as a valuable tool that allow understanding the entity's position in comparison to others and identifying areas requiring improvement and taking specific corrective actions in the context of the analyzed issues.

The evaluation of the literature on the subject leads to the conclusion that human capital plays an important role in managing innovation processes in organisations. Firstly, it is crucial for the organisation's prosperity and economic development. It is so because employees are the source of generating innovative solutions that translate into the efficiency and competitiveness of the entity. Second, the high level of employee competence and the innovations implemented as a result have a positive impact on the perception of the organisations that introduce them by stakeholders. As a result, it is possible to create new relationships that can contribute to the exchange of experiences and the creation of innovative solutions, also in areas different from before.

This article aimed to draw attention to the role of human capital in managing innovation processes. The important values of this study are:

- a) at the theoretical level: emphasizing the important role of human capital in managing innovation processes in organizations and the relationships between them;
- b) at the practical level: examples of reports from selected institutions regarding human capital and innovation may become an inspiration for other organisations to measure these phenomena as part of their activities. The study can further increase the organisation's awareness of investing in human capital and innovation. These phenomena are correlated and bring benefits not only to the employee or entity but may be important from the perspective of economic, technological, and social development.

However, the research results cannot be considered exhaustive. It is important to emphasise the need for further research on human capital and innovation at various scales in diverse types of organisations in the future. This is related to many changes that are currently taking place in economies, technologies, and societies, and the need to adapt solutions to emerging challenges.

REFERENCES

- Adams, R., Bessant, J., Phelps, R. (2006). *Innovation management measurement: a review*. „*International Journal of Management Reviews*”, No. 8. DOI:10.1111/j.1468-2370.2006.00119.x.
- Asiaei, K., Jusoh, R. (2015). *A multidimensional view of intellectual capital: the impact on organisational performance*. „*Manag. Decis.*”, Vol. 53, No. 3.
- Begg, D. (1992). *Makroekonomia*. Warszawa: PWE.

- Bielski, I. (2000). *Przebieg i uwarunkowania procesów innowacyjnych*, Bydgoszcz: Oficyna Wydawnicza Ośrodka Postępu Organizacyjnego.
- Bratnicki, M. (1999). *Spojrzenie na kapitał intelektualny z punktu widzenia wartości przedsiębiorstwa* [w:] Duraj, J., red., *Przedsiębiorstwo na rynku kapitałowym*. Łódź: UŁ.
- Czerniachowicz, B. (2008). *Gospodarowanie kapitałem ludzkim* [In:] Marek, S., *Elementy nauki o przedsiębiorstwie*. Szczecin: Economicus.
- Czerniachowicz, B., Wieczorek-Szymańska, A. (2011). *Gospodarowanie kapitałem ludzkim* [In:] Marek, S., Białasiewicz, M., red., *Podstawy nauki o organizacji. Przedsiębiorstwo jako organizacja gospodarcza*. Warszawa: PWE.
- Dąbrowska-Karasińska, E. (2002). *Wpływ metod pomiaru kapitału ludzkiego na wartość firmy*. „Annales Universitatis Mariae Curie-Skłodowska. Sectio H, Oeconomia”, 36.
- Dolińska, M. (2010). *Innowacje w gospodarce opartej na wiedzy*. Warszawa: PWE.
- Domański, S.R. (1993). *Kapitał ludzki i wzrost gospodarczy*. Warszawa: Wydawnictwo Naukowe PWN.
- Dziuba, D. (2005). *Gospodarki nasycone informacją i wiedzą. Podstawy ekonomiki sektora informacyjnego*. Warszawa: Wydawnictwo Naukowe PWN.
- Edvinsson, L., Malone, M.S. (2001). *Kapitał intelektualny*. Warszawa: Wydawnictwo Naukowe PWN.
- Firszt, D., Jabłoński, Ł. (2022). *Kapitał ludzki i innowacje a zmniejszanie luki rozwojowej między krajami*. CeDeWu, Warszawa.
- Łukasiewicz, G. (2009). *Kapitał ludzki organizacji. Pomiar i sprawozdawczość*. Warszawa: Wydawnictwo Naukowe PWN.
- Gierszewska, G., Romanowska, M. (2017). *Analiza strategiczna przedsiębiorstwa*. Warszawa: PWE.
- Gilejko, L. (2002). *Partnerzy społeczni. Konflikty, kompromisy, kooperacja*. Warszawa: Poltext.
- Gleaser, E.L. (1994). *Why does schooling generate economic growth?*. “Economics Letters”, No. 44.
- Górski, P. (2016). *Koncepcja kapitału ludzkiego i jego pomiar – podejście ekonomiczne i socjologiczne w kontekście zarządzania*. „Przegląd Organizacji”, 6.
- Griffin, R.W. (2006). *Podstawy zarządzania organizacjami*. Warszawa: Wydawnictwo Naukowe PWN.
- Gruszewska, E., Matel, A., Kuzionko-Ochrymiuk, E., (2018). *Współczesne problemy ekonomiczne w badaniach młodych naukowców, t. 2: Zarządzanie organizacją, finanse i inwestycje*, Białystok: Polskie Towarzystwo Ekonomiczne.
- Gupta, I., Mitra, A. (2004). *Economic growth, health and poverty: an explanatory study for India*. “Development Policy Review”, No. 22.
- Gyimah-Brempong, K., Wilson, M. (2004). *Health, human capital and economic growth in Sub-Saharan Africa and OECD countries*. “The Quarterly Review of Economics and Finance”, No. 44.
- Hee-Jae, C., Pucik, V. (2005). *Relationship between Innovativeness, Quality, Growth, Profitability and Market Value*. “Strategic Management Journal”, Vol. 26. DOI: 10.1002/smj.461.
- Hill, L., Brandeau, G., Truelove, E., Lineback, K. (2014). *Collective Genius: The Art and Practice of Leading Innovation*. Boston: Harvard Business Review Press.

- Jacko, J.F. (2018). *Innowacje a pseudoinnowacje. Niektóre normatywne założenia dystynkcji*. „Zarządzanie Publiczne”, 4(44), Doi:10.4467/20843968ZP.18.033.9936.
- Jagoda, A., Klimczak, M. (2011). *Praca jako zasób – pojęcie pracy i jej znaczenie w naukach ekonomicznych*. „Acta Universitatis Nicolai Copernici, *Ekonomia XLII – Nauki Humanistyczno-Społeczne*”, z. 402.
- Kalita, C. (2015). *Adam Smith: podział pracy i jego konsekwencje etyczno-społeczne (użyteczność czy racjonalność?)*. „Doctrina. *Studia Społeczno-Polityczne*”, Vol. 12, issue 12.
- Khaykin, M.M., Lapinskas, A.A., Kochergina, O.A. (2020). *The Development of the Theory of Human Capital in the Historical Dimension*. Proceedings of the International Conference on Economics, Management and Technologies 2020 (ICEMT 2020).
- Knosala, R., Boratyńska-Sala, A., Jurczyk-Bunkowska, M., Moczala, A. (2014). *Zarządzanie innowacjami*. Warszawa: Polskie Wydawnictwo Ekonomiczne.
- Knosala, R., Deptuła, A.M. (2018). *Ocena ryzyka wdrażania innowacji*. Warszawa: Polskie Wydawnictwo Ekonomiczne.
- Leadbeater, C. (2003). *Overdue: How to create a modern public library service*. Retrieved October 24, 2021. Access on the internet: <https://www.demos.co.uk/files/overdue.pdf>.
- Leoni, S. (2023). *A Historical Review of the Role of Education: From Human Capital to Human Capabilities*. “Review of Political Economy”.
- Magnac, T. (2024). *Human Capital and Search Models: A Happy Match*. “Revue Économique”, 75(1).
- Mankiw, N.G., Romer, D., Weil D.N. (1992). *A contribution to the economic growth*. “Quarterly Journal of Economics”, Vol. 7, No. 2.
- Mardiani, E., Dewi, A.R.S., Panjaitan, F.A.B.K, Damau, U.O. (2023), *Innovation Performance Measurement in Entrepreneurial Business: A Comparative Study between Start-ups and More Established Enterprises*. “West Science Journal Economic and Entrepreneurship”, Vol. 1, No. 10. DOI: 10.58812/wsjee.v1i10.302.
- Markham, S.K., Lee, H. (2013). *Product Development and Management Association's 2012 Comparative Performance Assessment Study*. “Journal of Product Innovation Management”, 30(3). DOI: 10.1111/jpim.12025.
- Moore Cowan, K., Haralson, L.E., Weekly, F. (2009), *The Four Key Elements of Innovation: Collaboration, Ideation, Implementation and Value Creation*. Retrieved November 13, 2023. Access on the internet: <https://www.stlouisfed.org/publications/bridges/summer-2009/the-four-key-elements-of-innovation-collaboration-ideation-implementation-and-value-creation>.
- Nappi, V., Kelly, K. (2018). *Key performance indicators and dimensions for the innovation process* [In:] 25th Innovation and Product Development Management Conference (IPDMC).
- Penc, J. (2007). *Zarządzanie innowacyjne – sterowanie zmianami w procesie integracji europejskiej*, Łódź: Wydawnictwo Wyższej Szkoły Studiów Międzynarodowych.
- Piersiala, L. (2023). *The essence of innovation – theoretical approach* [w:] Seroka-Stolka, O., Ślusarczyk, B., red. (2023). *Współczesne wyzwania logistyki*. Częstochowa: Wydawnictwo Politechniki Częstochowskiej.
- Podręcznik Oslo 2018. Wytyczne dotyczące gromadzenia, raportowania i wykorzystywania danych dotyczących innowacji, Wspólna publikacja OECD i Eurostatu, Warszawa, Szczecin 2020.
- Polska Agencja Rozwoju Przedsiębiorczości, Monitoring innowacyjności polskich przedsiębiorstw – Wyniki IV edycji badania 2022, Retrieved November 13, 2023. Access on the

- internet: https://www.parp.gov.pl/storage/publications/pdf/Raport_Monitoring-innowacyjności-polskich-przedsiębiorstw-IV-edycja_2022_20_01_2023.pdf.
- Pomykański, A. (2001). *Zarządzanie innowacjami*. Warszawa-Łódź: Wydawnictwo Naukowe PWN.
- Pomykański, A. (2004). *Zarządzanie innowacyjne przedsiębiorstwem* [w:] Jagoda, H., Lich-tarski, J., red., *Nowe kierunki w zarządzaniu przedsiębiorstwem – między teorią a praktyką*. Wrocław: Prace Naukowe AE.
- Raport 2021, Grupa Azoty, Retrieved November 13, 2023. Access on the internet: <https://raport2021.grupaazoty.com/innowacje/nasze-podejscie-do-innowacyjności/>.
- Raport Roczny JSW, Zarządzanie innowacjami, Retrieved November 13, 2023. Access on the internet: <https://www.jsw.pl/raportroczny-2022/innowacje/zarządzenie-innowacjami>.
- Raport Zintegrowany 2021 Orlen, Kapitał ludzki, Retrieved November 13, 2023. Access on the internet: <https://raportzintegrowany2021.orklen.pl/grupa-orklen-i-otoczenie/grupa-orklen/nasze-kapitały/kapitał-ludzki/>.
- Raport Zintegrowany 2022 TAURON, Kapitał ludzki, Retrieved November 13, 2023. Access on the internet: <https://raport.tauron.pl/grupa-tauron/kapitały-i-model-tworzenia-wartości/kapitał-ludzki/>.
- Raport Zintegrowany ESG 2021, Kapitał ludzki, Retrieved November 13, 2023. Access on the internet: <https://pgnig2021.pl/nasze-kapitały/kapitał-ludzki/>.
- Romanow, Z.B. (1999). *Historia myśli ekonomicznej w zarysie*. Poznań: Akademia Ekonomiczna w Poznaniu.
- Rutkowska, A. (2012). *Istota kapitału ludzkiego i wybrane metody jego pomiaru*. „Zarządzanie i Finanse”, R. 10, nr 1, cz. 3.
- Ruvio A., Shoham A., Vigoda-Gadot E., Schwabsky N. (2014). *Organizational Innovativeness: Construct Development and Cross-Cultural Validation*. “*Journal of Product Innovation Management*”, 31. DOI: 10.1111/jpim.12141.
- Şimşit, Z. T., Vayvay, Ö., Öztürk, Ö. (2014). *An Outline of Innovation Management Process: Building a Framework for Managers to Implement Innovation*. “*Procedia – Social and Behavioral Sciences*”, 150(231). DOI: 10.1016/j.sbspro.2014.09.021.
- Skrodzka, I. (2009). *Metoda kosztowa i metoda dochodowa pomiaru kapitału ludzkiego* [w:] Bocian A.F., red., *Podlasie regionem przyszłości*. Białystok: Wydawnictwo Uniwersytetu w Białymstoku.
- Smith, D. (2006). *Exploring Innovation*, Berkshire: McGraw-Hill Education.
- Stalończyk, I. (2012). *Kapitał ludzki jako główny element kapitału intelektualnego*. „*Ekonomia i Zarządzanie*”, nr 2, red. J. Ejdys, Kwartalnik Wydziału Zarządzania Politechniki Białostockiej.
- Stankiewicz, W. (1987). *Historia myśli ekonomicznej*. Warszawa: Wydawnictwo PWE.
- Sternberg, R., Krauss, G. (2014). *Handbook of Research on Entrepreneurship and Creativity*. Cheltenham: Edward Elgar Publishing Limited.
- Śledzik, K. (2013). *Teoria innowacyjności Josepha A. Schumpetera a trolle patentowe*. Sopot: „Zarządzanie i Finanse”, 11(4, cz. 4).
- The Well-being of Nations. The Role of Human and Social Capital*, OECD 2001, Retrieved November 5, 2023. Access on the internet: https://www.oecd-ilibrary.org/education/the-well-being-of-nations_9789264189515-en.
- The World Bank – The Human Capital Project, Retrieved November 5, 2023. Access on the internet: <https://www.worldbank.org/en/publication/human-capital/brief/the-human-capital-project-frequently-asked-questions#HCP2>.

- Tidd, J., Bessant, J. (2011). *Zarządzenie innowacjami. Integracja zmian technologicznych, rynkowych i organizacyjnych*. Warszawa: Oficyna a Wolters Kluwer business.
- Topoła, K., Praszczuk, R. (2002). *Istota innowacyjności, Prace Naukowe*. „Pedagogika”, t. 11. Częstochowa: Wydawnictwo im. Stanisława Podobińskiego Akademii im. Jana Długosza w Częstochowie.
- Walińska, E., Bek-Gaik, B., Gad, J., Rymkiewicz, B. (2015). *Sprawozdawczość przedsiębiorstwa jako narzędzie komunikacji z otoczeniem. Wymiar finansowy i niefinansowy*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Wieczorek-Szymańska, A. (2010). *Koncepcja kapitału ludzkiego w teorii ekonomii: przegląd wybranych podejść*. „*Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania*”, nr 17.
- Wolff, E.N. (2000). *Human capital investment and economic growth: exploring cross-country evidence*. “*Structural Change and Economic Development*”, No. 11.
- Żero, S. (2018). *Różnice w interpretacji pojęć innowacji oraz imitacji przedmiotu* [In:] Gruszewska, E., Matel, A., Kuzionko-Ochrymiuk, E., *Współczesne problemy ekonomiczne w badaniach młodych naukowców*, t. 2: *Zarządzanie organizacją, finanse i inwestycje*.

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*The time has come to realise
that nature will prevail without humanity,
but humanity without nature will not.
– Aristotle*

SAFETY CULTURE OF ECOSYSTEM SERVICES

In this article, an attempt is made to indicate the role and importance of ecosystem services as advantages that are provided to us by the environment. The authors demonstrate selected concepts of ecosystem services and their classification, but only to introduce the reader to pilot studies of the urban ecosystem. The present article aims to define the factors that influence the culture of utilizing ecosystem services in urbanized areas. In this article, a fragment of an urban ecosystem, specifically the Old Town of Gdańsk (which features anthropogenic elements and whose functioning is dependent on ecological and natural systems), is observed through a researcher's eye. This area is predominantly focused on using international experiences in interdisciplinary research, a dynamically developing new science discipline called "city ecology." The key research problem of this study is as follows: how can the safety culture be efficiently developed and integrated with the management of ecosystem services to ensure their persistence and resistance to environmental and anthropogenic risks?

Keywords: safety culture, ecosystem services, ecological safety, ecologistics of the city, crisis management, security, crisis situation.

1. INTRODUCTION

Ecosystem services are a range of services used by the society – a branch of ecological economy initiated by scientists in the 60s and 70s of the last century, the task of which is to assess the value of ecosystems. They are the consequences of the realisation that the limited resources of the Earth and polluted environment primarily influence people's health and life, and then have negative effects on the world's economy. M. Stępniewska and A. Mizgajski note:

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The concept of services provided to a person by ecosystems, also referred to as ecosystem services (the contribution of ecosystems to the values revealed in economic, social, cultural and other forms of human activity), has gained considerable popularity among researchers of human–environment relations in the last quarter of the century. It can be assumed that it is a manifestation of searching for an increase in the efficiency of the protection of the natural environment by humans, which loses against market mechanisms and the societies' aspirations to raise the material standard of living, without paying attention to the negative effects on the natural environment (Stępniewska, Mizgajski, 2023).

H. Sommer, G. Zakrzewski described the idea of services in the following way:

Nature gave humanity access to food, clean waters, uncontaminated soil and the photosynthesis, describing the flow of energy in ecosystems in a perfect way. Nature generates ecosystem services for itself, ones than humans have started to use injudiciously. Our existence depends on the continuous supply of ecosystem services in both quantitative and qualitative sense. These goods, widely available to humans, have not been seen as valuable, and being public goods, they have not been a market product. Because how can one appraise the value of clean air or water? Establishing the cost of atmospheric emissions or fees for the economic use of water, however, poses no problems. Such activities lead to the degradation of ecosystems and decreasing biodiversity. We are approaching the ultimate natural thresholds, suffering painful consequences thereof (Sommer, Zakrzewski, 2020).

Ecosystem services are the benefits that humans draw from natural ecosystems. These services are necessary both for the subsistence and wellbeing of societies. They have crucial meaning for human survival and economic development. They ensure resources needed to fulfil basic human needs, aid livelihoods and contribute to cultural and spiritual wellbeing. In addition, they play an important role in regulating environmental conditions, which helps to alleviate the consequences of climate change and natural disasters. To sum up, it can be stated that ecosystem services are a specific stream of benefits, the origin of which is the natural capital as the resource of animate and inanimate goods, together with their associated energy. These ecosystem services are vital for the wellbeing of people and the environment. Acknowledgement of their meaning and taking measures to protect and maintain them is crucial to ensure a sustainable future.

2. ECOSYSTEMS AND HUMAN WELFARE

Artificial environments (Figure 1), which have appeared as a result of transitions from the natural human environment, have a specific organisational, spatial, social and cultural structure, in which processes suitable for the ecosystem occur. Each of the mentioned systems also represents a certain economic value. H. Sommer, G. Zakrzewski state:

The breakthrough point in the development of ecology was Tansey's introduction of the concept of “ecosystem” as the basic, ecological functional and spatial unit in 1935. An ecosystem is an area of relatively homogenic abiotic conditions (biotope), occupied by a corresponding set of species linked by trophic and

paratrophic relationships, through which a beam of energy and matter flows. A technically developed area can also be considered an ecosystem if it meets the above-mentioned conditions. According to this definition, an ecosystem consists of two closely related components:

- **inanimate one (biotope, also called habitat)**, which consists of soil, water and air with their physicochemical properties, as well as climate;
- **animate one (biocenosis)**, composed of a combination of species specific to a given biotope under given geographical conditions (Sommer, Zakrzewski 2023a).

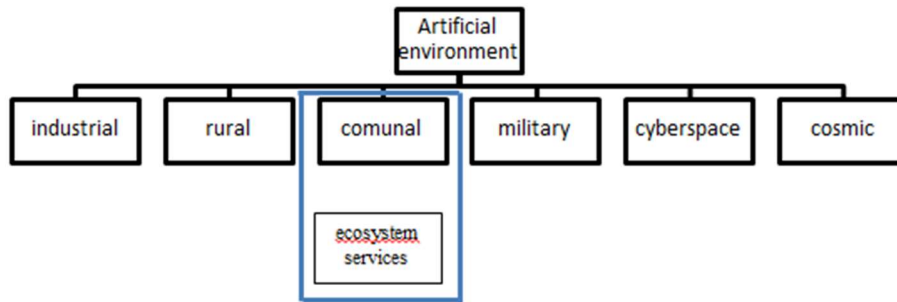


Figure 1. The location of the studied ecosystem services in an artificial environment

Source: Own elaboration based on: (Sommer, Zakrzewski, 2023).

Ecosystem services concern every environment; however, due to the length of the article, the authors will focus their scientific inquiries and research on the urban environment.

3. IMPORTANCE OF ECOSYSTEM SERVICES

Humans, transforming their natural environment, have never distanced themselves from it. Over time, the characteristic elements of the human natural environment have been transformed to such an extent that they have their own nomenclature. For the purposes of this article, the authors looked at the urbanised thousand-year-old habitat of the city of Gdańsk.

The urbanised, thousand-year-old habitat of Gdańsk is an example of the integration of the natural environment and buildings in order to create a vibrant, sustainable city. By recognising and improving its ecosystem services, Gdańsk can continue to thrive while preserving its rich historical and cultural heritage for future generations.

Limited accessibility zones in Gdańsk are a key element of the city's strategy to create a hospitable urban environment. By limiting vehicle access, these zones improve air quality, reduce congestion and improve urban experiences, making Gdańsk a more attractive and healthier place to live and explore.

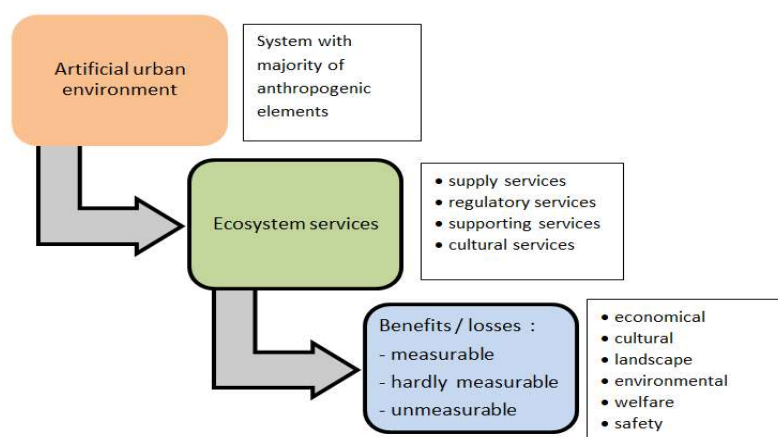


Figure 2. Cascade of ecosystem services

Source: Own elaboration based on: (<https://eur-lex.europa.eu/PL/legal-content/glossary/ecosystem-services.html>; <https://irmir.pl/wp-content/uploads/2022/03/Uslugi-ekosystemowe-B.Szulczewska.pdf>).

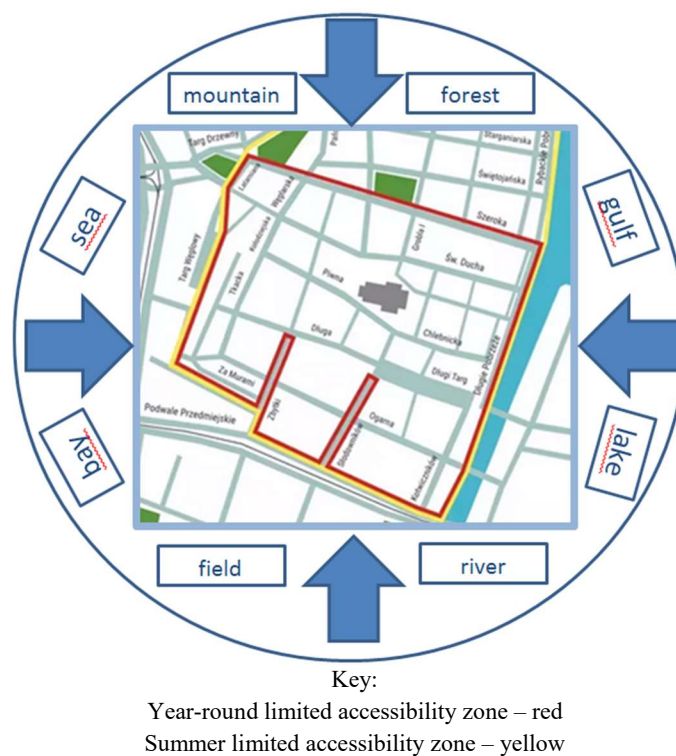


Figure 3. Simplified diagram of the site/area of ecosystem services research in Gdańsk

Source: Own elaboration based on the following map: (<https://gzdziz.gda.pl/zalaw-sprawce/strefa-ograniczonej-dostepnosci-na-glownym-miescie,a,3141>).

4. METHODOLOGY AND RESULTS OF THE CONDUCTED RESEARCH

Research methodology is an approach used to conduct research, including techniques and procedures used to collect, analyse and interpret data. It includes the selection of specific data collection methods (e.g. surveys, interviews), data analysis (e.g. statistical analysis, thematic analysis) and ethical considerations necessary to ensure the integrity and validity of the research. The study adopted a mixed approach, combining quantitative and qualitative techniques to achieve a comprehensive understanding of the topic. Data will be collected through structured surveys to collect quantitative data. Partially structured interviews will be conducted to obtain qualitative information from key stakeholders.

We call the research problem what is the subject of the research efforts, i.e. what orientates cognitive endeavours (Sztumski 1999).

The main research problem in the present study is formulated as follows: “How can a safety culture be effectively developed and integrated into the management of ecosystem services to ensure the sustainability and resilience of these services to environmental and anthropogenic threats?”

The research was carried out in May 2024 among residents and tourists staying in the area of the city of Gdańsk shown in Figure 3. The area of scientific research called administratively the Limited Accessibility Zone (LAZ) in the Main City is a specially separated area in the city centre of Gdańsk⁴ located between: Kotwiczników Street, Ogarna Street, Słodowników Street, Za Murami Street, Bogusławskiego Street, Wełniarska Street, Teatralna Street, Latarniana Street, Szeroka Street, Old Motława River marked in red in the figure. During the holiday season, the LAZ area is also expanded to include other streets of the Main City, marked in yellow in the figure⁵. The research was conducted in front of three small convenience stores between 9am and 12pm (50 people). Moreover, from 12pm to 3pm, tourists (50 people) who stayed in the researched area at that time were subjected to the study. The survey contains 9 categorised questions. It was conducted on a diverse group of participants to collect quantitative data on their insights and experiences. In addition, interviews were conducted to obtain a qualitative insight into the unique perspectives of both residents and tourists. Interviews were conducted with city officials, owners of local businesses (restaurants, shops and hotels in the centre of Gdańsk), employees of cultural organisations and the Environment and Environmental Protection organisations, as well as scientists dealing with environmental protection.

Quantitative data were analysed using statistical methods to identify trends and dependencies, while qualitative data were subjected to thematic analysis to identify key threads and narratives. This methodological approach ensured a solid and holistic understanding of the research topic, providing valuable insights from a wide range of interested parties. Ethical considerations were adhered to throughout the research process, ensuring informed consent, confidentiality and integrity of the data collected.

The questions asked to the respondents were aimed at collecting various perspectives and insights on the development and integration of the safety culture in the management of ecosystem services, taking into account both challenges and potential solutions.

⁴ See more: Śródmieście District, number of residents: 24 536, area: 5,65 km², population density: 4 343 people/km² <https://www.gdansk.pl/srodmiescie/ludnosc-i-ilosc-mieszkanow,a,180411> [Access: 21.06.2024].

⁵ See more: <https://gzdziz.gda.pl/zalatw-sprawe/strefa-ograniczonej-dostepnosci-na-glownym-miescie,a,3141> [Access: 21.06.2024].

The first question in the survey concerned the knowledge of the safety culture in the management of ecosystem services.

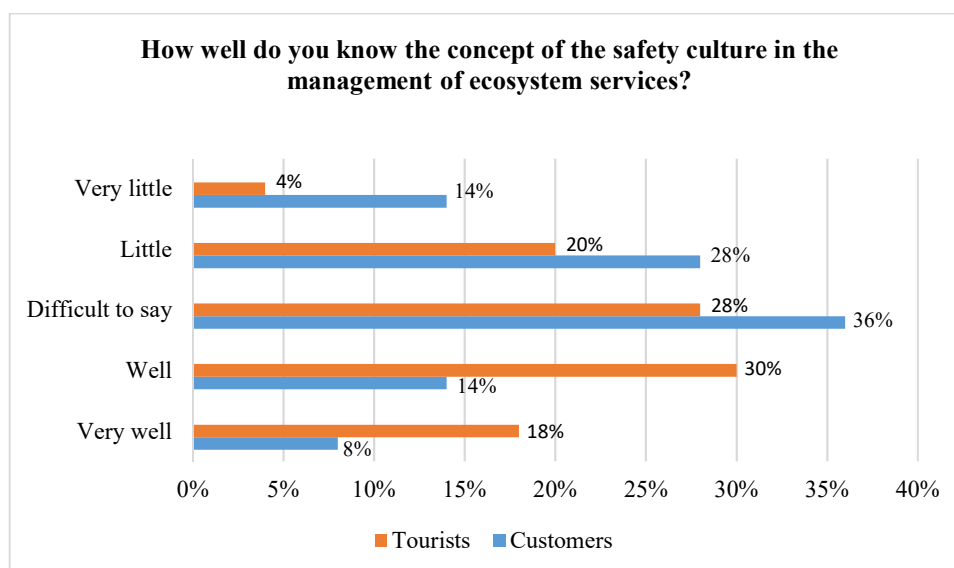


Chart 1. The level of knowledge of the safety culture in the management of ecosystem services

Source: authors' own research.

The level of knowledge of the respondents on the concept of safety culture in the management of ecosystem services is generally insufficient. A significant proportion of the respondents frequently chose the “Difficult to say” option, indicating uncertainty or the lack of knowledge of the concept. Data analysis shows that tourists have a greater knowledge on the topic than customers of the local stores. This discrepancy can be attributed to the demographical features of the local customers, who were often at the retirement age and may not have heard of the researched concept.

When it comes to interviews conducted with key stakeholders, they indicate that city officials, local business owners, employees of cultural organisations, environmental protection workers and scientists usually have a moderate understanding of the studied concept. The level of knowledge is diverse, with scientists and environmental protection workers having the greatest knowledge, and local business owners and employees of cultural organisations exhibiting limited awareness.

To guarantee the comprehensiveness of the research, after answering the initial question, the respondents were precisely introduced to the concept of the safety culture in the management of ecosystem services. Such preparation allowed them to provide more accurate and informative answers to the following questions.

The next question concerned the meaning of the integration of the safety culture into the management of ecosystem services.

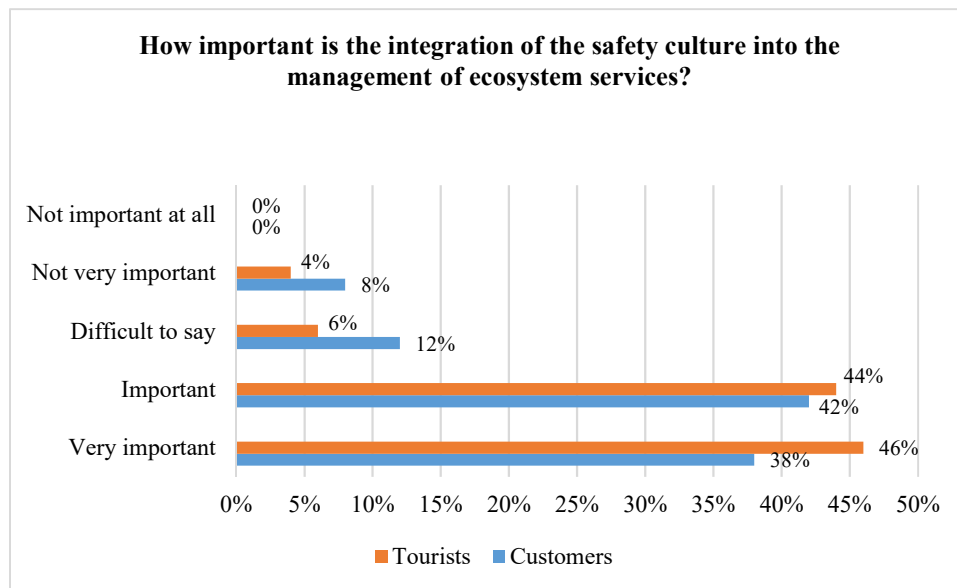


Chart 2. The importance of integrating the safety culture into the management of ecosystem services

Source: authors' own research.

The respondents attach importance to the role of the safety culture in the management of ecosystem services. The vast majority, no less than 100%, determined it as important or very important. Only a small percentage of respondents were not able to make a decision on this issue or determined it as not very important. Similarly, interviews with key stakeholders indicate that they perceive the safety culture in the management of ecosystem services as very important. These answers were given shortly after a thorough introduction of the respondents to the analysed concept.

In the third question, the respondents were asked to indicate the most important threats to the persistence of ecosystem services.

In question 3, the sum of the answers does not equal 100%, because the respondents indicated all answers which in their opinion applied. The most frequently indicated threats were successively: environmental contamination, climate change, habitat destruction, socio-economic pressures, excessive exploitation of resources and intrusive species. No other threats were indicated by any of the respondents.

The most important threats to the persistence of ecosystem services, identified by key stakeholders, were climate change, contamination, habitat destruction, excessive exploitation of resources, intrusive species, socio-economic pressures and inappropriate regulatory frameworks.

In the following question, the respondents indicated the most efficient actions in the development of the safety culture in the management of ecosystem services.

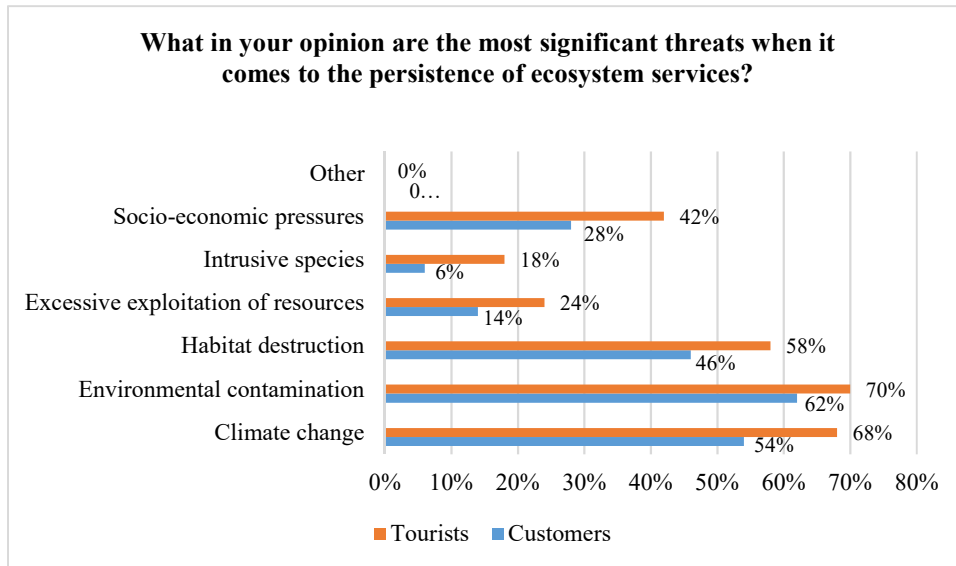


Chart 3. The most important threats to the persistence of ecosystem services

Source: authors' own research.

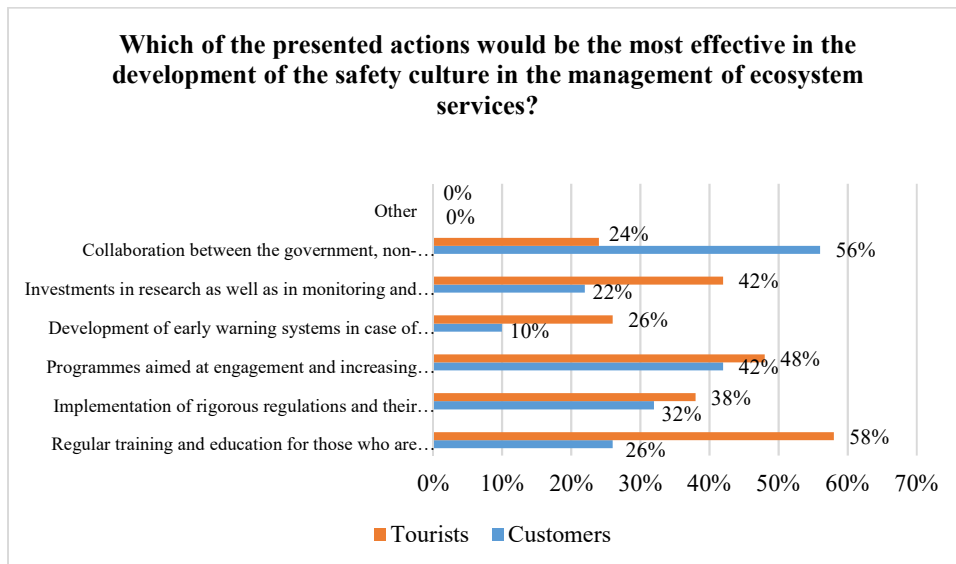


Chart 4. The most effective actions in the development of the safety culture in the management of ecosystem services

Source: authors' own research.

In the fourth question, the respondents could indicate a maximum of three actions. Among the most effective actions in the development of the safety culture in the

management of ecosystem services indicated by tourists were regular training and education, programmes aimed at increasing public awareness as well as investment in research and monitoring and security technology. However, customers of small local stores indicated the collaboration between the government, non-governmental organisations and local communities. Similarly to tourists, they paid attention to programmes aimed at increasing public awareness as well as to the introduction of rigorous regulations and their enforcement. During the interviews, key stakeholders expressed similar views to those of the respondents.

The next question concerned the biggest challenges in implementing a safety culture in the management of ecosystem services.

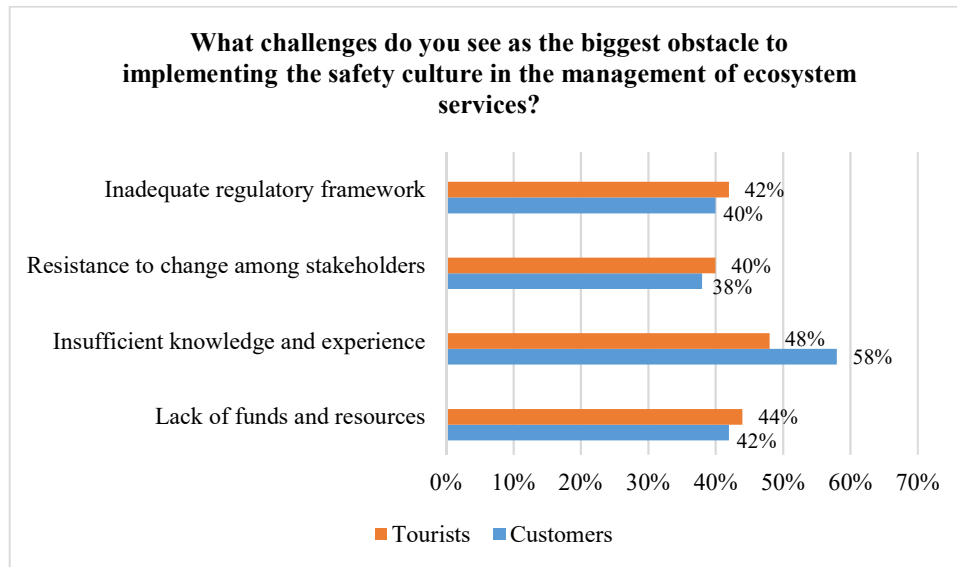


Chart 5. Challenges that pose the biggest obstacle to implementing the safety culture in the management of ecosystem services

Source: authors' own research.

In question 5, the respondents were able to select all challenges that they felt were applicable. The responses of customers of small, local shops and tourists from the studied area were very similar. Despite minor differences in the indications, it was noted that the respondents most often considered insufficient knowledge and experience as the main challenge.

Based on the interviews, the key stakeholders emphasise the importance of eliminating these challenges through increased funding, comprehensive education and training programmes, a stronger regulatory framework and enhanced cooperation and engagement of the interested parties.

In the next question, the respondents were asked to assess the effectiveness of the current ecosystem services management practices in counteracting environmental and anthropogenic threats.

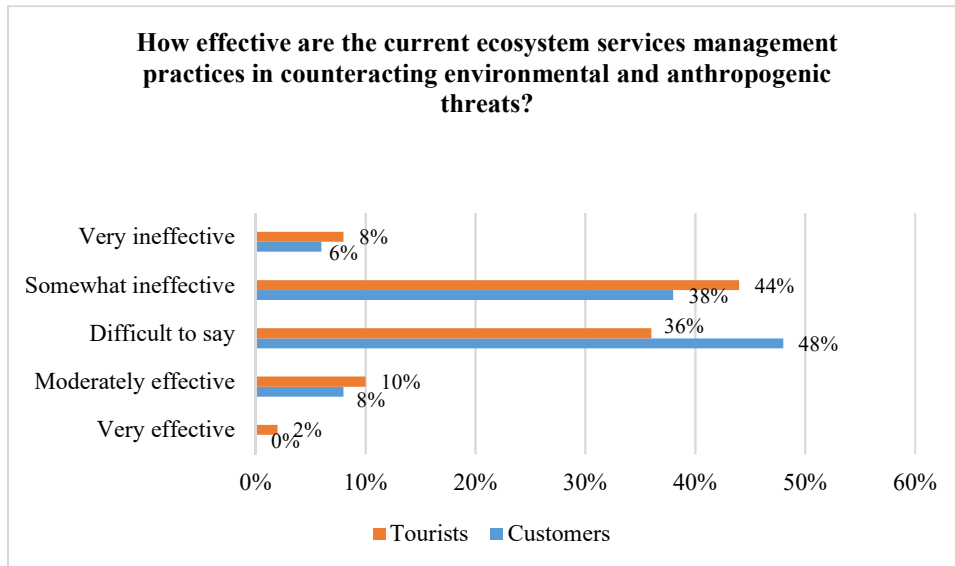


Chart 6. The effectiveness of the current ecosystem services management practices in counteracting environmental and anthropogenic threats

Source: authors' own research.

When asked about the effectiveness of the current practices in the management of ecosystem services, the vast majority of respondents were not able to take a clear position or believed that these practices are to some extent ineffective. Only a very small, statistically insignificant percentage of respondents considered them to be very effective.

Based on the interviews, key stakeholders generally assess the effectiveness of the current ecosystem services management practices in counteracting environmental and anthropogenic threats as moderate. They acknowledge some successful initiatives, but also emphasise the need for better enforcement of regulations, closer cooperation with interested parties and integration of advanced technologies and innovative strategies to increase overall effectiveness.

In the last, open-ended question, the respondents were asked to answer the following: Who should be most involved in promoting the safety culture in the management of ecosystem services?

The responses obtained from customers, tourists and significant persons show that the promotion of the safety culture in the management of ecosystem services requires the active involvement of many key stakeholders. Governmental and regulatory bodies, local communities, non-governmental organisations devoted to protecting the environment, academic institutions, the private sector and international organisations play an important role in ensuring the effective and sustainable management of these vital services. Their cooperation is essential for developing policies, raising awareness, conducting research and implementing best practices as well as setting global standards.

5. CONCLUSION

Based on the study, the level of knowledge of the respondents about the concept of safety culture in the management of ecosystem services is insufficient. The most frequently indicated threats to the sustainability of ecosystem services include environmental pollution, climate change, habitat destruction, socio-economic pressure, excessive exploitation of resources and intrusive species. Key stakeholders also drew attention to these threats as well as to the inappropriate regulatory framework. The main challenge in the implementation of the safety culture in the management of ecosystem services indicated by the respondents is insufficient knowledge and experience. Key people emphasise the importance of eliminating these challenges through increased funding, comprehensive education and training programmes, a stronger regulatory framework and enhanced cooperation and engagement of the interested parties.

Promoting the safety culture in the management of ecosystem services requires an active involvement of various key stakeholders, including governmental and regulatory bodies, local communities, non-governmental organisations devoted to protecting the environment, academic institutions, the private sector and international organisations. Their joint efforts are crucial to ensure the effective and sustainable management of these core services.

REFERENCES

- <https://www.gdansk.pl/srodmiescie/ludnosc-i-ilosc-mieszkanow,a,180411>.
- <https://eur-lex.europa.eu/PL/legal-content/glossary/ecosystem-services.html>.
- <https://gzdz.gda.pl/zalaw-spraw/stefa-ograniczonej-dostepnosci-na-glownym-miescie,a,3141>.
- <https://irmir.pl/wp-content/uploads/2022/03/Uslugi-ekosystemowe-B.Szulczewska.pdf>.
- https://sendzimir.org.pl/wp-content/uploads/2019/08/ZRZ3_str_13-28.pdf.
- Sommer, H., Zakrzewski, G. (2020), *Ecological security vs. Food security*. "Humanities and Social Sciences", Vol. XXV, 27 (4/2020). Access on the internet: <https://journals.prz.edu.pl/hss/article/view/231/190>.
- Sommer, H., Zakrzewski, G. (2023), *A culture of security versus digital exclusion as a form of social exclusion*. "Humanities and Social Sciences, Research Journal" 30, No. 3(2023). Access on the internet: <https://journals.prz.edu.pl/hss/article/view/1486/1127>.
- Sommer, H., Zakrzewski, G. (2023). *Understanding space security culture as a new explored human environment*. "Humanities and Social Sciences, Research Journal" 30, No. 4(2023) – part II. Access on the internet: <https://journals.prz.edu.pl/hss/article/view/1652/1237>.
- Stępniewska, M., Mizgajski, A., red. (2023). *Usługi ekosystemowe w zarządzaniu układami przyrodniczymi*. Poznań. Access on the internet: <https://ecoservpol.amu.edu.pl/wp-content/uploads/2023/09/uslugi-ekosystemowe-w-zarzadzaniu-ukladami-przyrodniczymi.pdf>.
- Sztumski, J. (1999). *Wstęp do metod i technik badań społecznych*. Katowice: Śląsk: Wydawnictwo Naukowe.

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JOB DISCRIMINATION AGAINST INDIVIDUALS WITH DISABILITIES

The purpose of this study is to identify the relationship between holding a disability certificate and job discrimination. The motivation for conducting this research is to identify a research gap relating to the insufficient recognition of the issue of dysfunction in human resource management, namely, the discrimination of individuals with disabilities by employers. This paper presents the results of a survey conducted on a sample of 148 people. The results of the nonparametric significance tests are discussed. Contrary to the subjective feelings of the surveyed population, the study found that, in selected areas, both the degree and character of a disability significantly correlate with job discrimination by employers.

Keywords: discrimination, dysfunction in human resource management, individuals with disabilities, statistical analysis.

1. INTRODUCTION

In scientific research, disability as a social issue is considered from various, often contrasting, perspectives (Parchomiuk, 2019). One of these is the idea of “*empowerment*”, which emerged as a consequence of the social understanding of disability (Kildal, 2019; Macdonald et al., 2022). As noted by Mikolajczyk-Lerman (2013), the evolution of sociological approaches to disability has transitioned from a charity-based model to a human rights-based model. The fundamental elements of the rights-based concept are entitlements and responsibility. In the biopsychosocial concept, disability is a much more complex, dynamic, and time-varying process. In this model, the key factor is the extent to which individuals with disabilities are included in societal participation. Disability is treated as a dynamic process of interaction between the individual and the environment. It is emphasized that every person may experience disability at different periods of their life. Thus, in a given cultural context, disability requires integration (Titchkosky, 2023). Adopting this social perspective promotes an activating approach, highlighting the importance of participation and support for self-sufficiency (Rymsza, 2013). In the 21st century, disability has become a subject of public debate and has acquired a political dimension. The activism of the disability community has resulted in the formation and development of the social construction of disability (Barnes, 1991). In scientific research,

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much attention is devoted to the issues of support and activation of individuals with disabilities (Gąciarz, 2014). In the literature on the subject, issues related to inclusion, integration, and discrimination of individuals with disabilities are often raised (Giermanowska, Zakrzewska-Manterys et al., 2015). Some studies (Niedzielski, 2014) have noted the prevalence of negative attitudes in the process of hiring individuals with disabilities. This raises the question of current direction of the phenomenon of discrimination against individuals with disabilities. In the study, the decision was made to focus on the issue of dysfunction in the human resources management sphere, which is the discrimination of individuals with disabilities by employers.

2. LITERATURE REVIEW

In the social life of individuals with disabilities, normalization is crucial, which involves maintaining and developing norms and behaviours that are as consistent as possible with the cultural norms of the environment. Individuals with disabilities are now playing a role in shaping decisions regarding social policy, actively contributing to its development. Frequently, these individuals face social exclusion, encountering rejection, disregard, ridicule, or deliberate neglect by those who are fully able-bodied (Lorenti et al., 2020). Such behaviours of able-bodied people cause a distortion of social interactions. Social stigma is the process of stigmatizing an individual or a group due to some depreciated attribute or characteristic (Goffman, 2005; Kayama et al., 2019).

The word “discrimination” in encyclopaedic terms is explained as “unfair treatment or persecution of individuals or social groups based on their origin, ethnicity, race, religion, nationality or class” (Doroszewski, 1962). The Polish Labor Code details the definition of direct and indirect discrimination (Article 18 § 4 of the Labor Code). Direct discrimination is a case of an employer making decisions against specific employees using legally prohibited criteria. Direct discrimination exists when an employee, for one or more specific reasons (such as disability, gender or age), has been, is or could be treated less favourably than other employees in a comparable situation (Article 183a § 3 of the Labor Code).

Indirect discrimination exists when, as a result of the employer's actions, there are unfavourable disparities in:

- establishment or termination of the employment relationship,
- conditions of employment, promotion and access to training to improve professional qualifications,
- proceedings against all or a significant number of employees belonging to a group distinguished on the basis of one or more grounds deemed discriminatory (Article 183a § 4 of the Labor Code).

The open labour market provides a place where the attention of business executives is focused on making a profit and increasing company revenues. It is not surprising, therefore, that for a free-market economy, the demand for considering principles of morality or social justice is challenging to implement (Choi, Storr, 2023). Employers aim to select a strong, educated workforce that, through their work and dedication, contributes to the company's revenue growth (Kim et al., 2019). The opinions of employees with disabilities are mostly positive in terms of their employment and work (Niedzielski, 2014). The sole observable constraint was the smaller number of job opportunities in the open market. Understanding the needs and experiences of people individuals with disabilities is crucial. In society, this group is seen as disadvantaged. There are also studies indicating that individuals with disabilities suffer from wage discrimination (Jolly, Wagner, 2023; Balo, 2023).

According to Article 94(2b) of the Labor Code, it is the employer's duty to prevent discrimination in employment. Employer involvement in social issues, although not a component of the goods offered by companies, is an encouraging factor for purchasing decisions (Kiliańska, Pajęcki, 2022). There are a number of changes in consumers attitudes that relate to responsibility in general (Czajkowska, Ingaldi, 2023), therefore the elimination of any dysfunctions in human resource management can have an image-related dimension and thus contribute to improving the performance of companies.

3. RESEARCH METHODOLOGY

The motivation for conducting the research was to identify a research gap related to the insufficient recognition of the issue of dysfunction in human resource management, namely, the discrimination of individuals with disabilities by employers.

The purpose of the study was to identify the relationship between possessing a disability certificate and job discrimination by employers.

Regarding the research objective, 4 research hypotheses were formulated:

H1: There is discrimination against individuals with disabilities at work.

H2: Discrimination is influenced by the degree of disability.

H3: Discrimination is influenced by the disability symbol.

H4: Possession of certain characteristics conditions the experience of discrimination.

To verify the validity of the research hypotheses, a primary survey was conducted. The study was conducted using a survey questionnaire.

The questionnaire consisted of personal data questions and proper questions, to which respondents responded on a five-point Likert scale. The research sample was deliberately selected, and the criterion of purposefulness was the possession of a disability degree certificate. A total of 148 individuals with disabilities participated in the survey. The survey was sent to respondents via a discussion forum dedicated to individuals with disabilities. A verification of the disability certificate held was made by asking for the disability symbol from the official certificate. The structure of the research sample is presented in Table 1.

Table 1. Structure of the research sample

| | <i>N</i> | % | | <i>N</i> | % |
|--|----------|-------|-----------------------------|----------|-------|
| Gender | | | Net earnings | | |
| Women | 101 | 68.2% | Less than PLN 2,780 | 40 | 27.0% |
| Men | 47 | 31.8% | PLN 2,780 – 3,500 | 47 | 31.8% |
| Place of residence | | | PLN 3600 – 5350 | 35 | 23.6% |
| Village | 32 | 21.6% | More than PLN 5,350 | 26 | 17.6% |
| City with a population of up to 50,000 | 16 | 10.8% | Degree of disability | | |
| City with a population from 50,000 to 150,000 | 17 | 11.5% | Slight | 15 | 10.1% |
| City with a population from 150,000 to 500,000 | 41 | 27.7% | Moderate | 97 | 65.6% |
| City with a population of more than 500,000 | 42 | 28.4% | Severe | 36 | 24.3% |
| Education | | | Disability symbol | | |
| Primary | 1 | 0.7% | Neurological and motor | 62 | 41.9% |
| Vocational | 9 | 6.1% | Visual | 20 | 13.5% |
| High school | 28 | 18.9% | Speech and hearing | 34 | 23.0% |
| Higher | 110 | 74.3% | Other | 32 | 21.6% |

Source: own study.

A nonparametric Mann-Whitney U test was used to compare the average level of the dependent variable between the two independent groups of observations. The Kruskal-Wallis test was used to compare the average level of the dependent variable between more than two independent groups of observations. A χ^2 Test was used to examine the relationship between the two variables measured on the qualitative scale. For each test, a statistically significant result of $p < 0.05$ was determined.

4. PRESENTATION OF RESEARCH RESULTS

4.1. Are individuals with disabilities discriminated against by employers?

A questionnaire was used to determine the level of assessment of discrimination against individuals with disabilities in the workplace by employers, with respondents rating their agreement with statements on a Likert scale of 1–5, where 1 – definitely not, 2 – rather not, 3 – hard to say, 4 – rather yes, 5 – definitely yes. The scale assessed discrimination in terms of conditions during the job interview, conditions of employment and salary, being overlooked for training to improve professional qualifications or important professional projects, worse treatment after presenting a disability certificate, and lack of workplace accommodation. The overall discrimination assessment index was calculated as the average rating from all six items on the questionnaire.

Descriptive statistics for assessing discrimination in the workplace are shown in Table 2. Overall, respondents rated workplace discrimination at 2.14 points with a deviation of ± 0.98 points, and half of them rated workplace discrimination at a maximum of 2 points. In the study group, individuals with disabilities did not perceive a high level of discrimination, and a significant portion of respondents scale rated the level of discrimination for individual items on the questionnaire at 1 point, indicating a lack of agreement with statements regarding discrimination in the workplace by employers. Based on the obtained result, H1 should be rejected

Table 2. Descriptive statistics for assessing discrimination in the workplace

| | <i>Min</i> | <i>Max</i> | <i>M</i> | <i>SD</i> | <i>Me</i> |
|--|------------|------------|----------|-----------|-----------|
| The job interview was arranged under conditions that made it impossible for me to attend | 1 | 5 | 1.92 | 1.30 | 1 |
| My employment and salary conditions are worse than that of other employees | 1 | 5 | 2.38 | 1.32 | 2 |
| I am overlooked for training to improve professional qualifications | 1 | 5 | 2.15 | 1.31 | 2 |
| The employer started treating me worse since I presented the disability certificate | 1 | 5 | 1.88 | 1.25 | 1 |
| Lack of workplace accommodation | 1 | 5 | 2.29 | 1.34 | 2 |
| My participation in important company projects is overlooked | 1 | 5 | 2.20 | 1.34 | 2 |
| Overall assessment of discrimination | 1 | 5 | 2.14 | 0.98 | 2 |

Min – minimum, *Max* – maximum, *M* – mean, *SD* – standard deviation, *Me* – median.

Source: own study.

Most often, the respondents admitted that their employment and salary conditions are worse than those of other employees ($M = 2.38$ points), they reported lack of workplace accommodation ($M = 2.29$ points), and that their participation in important company

projects is overlooked ($M = 2.20$ points). Less frequently, respondents admitted that they were overlooked for training to improve professional qualifications ($M = 2.15$ points), the job interview was arranged under conditions that made it impossible for them to attend it ($M = 1.92$ points) and the employer started treating them worse since they presented a disability certificate ($M = 1.88$ points).

4.2. Is discrimination influenced by the degree of disability?

The aim of the study was, among other things, to determine the relationship between the assessment of discrimination in the workplace and the degree of disability of the people surveyed, H2: Discrimination is influenced by the degree of disability. For this purpose, Kruskal-Wallis test analysis was performed, the results of which are shown in Table 3.

Table 3. Relationship between the assessment of discrimination in the workplace and the degree of disability

| | Mild | | | Moderate | | | Severe | | | χ^2 | p | η^2 |
|--|--------------------|------|--------|--------------------|------|--------|--------------------|------|--------|----------|-------|----------|
| | $M \pm SD$ | Me | $Rank$ | $M \pm SD$ | Me | $Rank$ | $M \pm SD$ | Me | $Rank$ | | | |
| Inconvenient job interview conditions | 1.29 ± 0.61 | 1 | 52.82 | 2.02 ± 1.33 | 1 | 72.61 | 1.91 ± 1.38 | 1 | 68.13 | 3.82 | 0.148 | 0.01 |
| Worse employment and salary conditions | 1.73 ± 0.96 | 1 | 53.47 | 2.51 ± 1.33 | 3 | 77.04 | 2.31 ± 1.37 | 2 | 70.41 | 4.61 | 0.100 | 0.02 |
| Being overlooked for training to improve professional qualifications | 1.53 ± 0.92 | 1 | 53.10 | 2.27 ± 1.29 | 2 | 76.87 | 2.09 ± 1.46 | 1 | 67.16 | 5.47 | 0.065 | 0.02 |
| Worse treatment after presenting disability certificate | 1.4 ± 0.74 | 1 | 59.50 | 2.11 ± 1.3 | 2 | 81.06 | 1.44 ± 1.11 | 1 | 56.19 | 13.19** | 0.001 | 0.08 |
| Lack of workplace accommodation | 1.93 ± 1.14 | 1.5 | 60.11 | 2.31 ± 1.32 | 2 | 70.81 | 2.4 ± 1.46 | 2 | 71.87 | 1.04 | 0.594 | 0.01 |
| Lack of participation in important company projects | 1.4 ± 0.74 | 1 | 45.57 | 2.34 ± 1.34 | 2 | 73.49 | 2.21 ± 1.45 | 2 | 67.71 | 7.11* | 0.029 | 0.04 |
| Overall assessment of discrimination | 1.53 ± 0.59 | 1.5 | 46.63 | 2.27 ± 1.01 | 2 | 80.29 | 2.05 ± 0.93 | 1.9 | 70.51 | 8.49* | 0.014 | 0.04 |

M – mean, SD – standard deviation, Me – median, $Rank$ – mean rank, χ^2 – Chi-square statistic, η^2 – magnitude of differences, * $p < 0.05$, ** $p < 0.01$.

Source: Own study.

Based on the results of testing, it can be concluded that the degree of disability was statistically significantly correlated with the overall discrimination score $\chi^2 = 8.49$; $p < 0.05$; $\eta^2 = 0.04$. Detailed analyses with Mann-Whitney U tests showed that individuals with mild disabilities rated workplace discrimination lower than those with moderate $Z = 2.78$; $p < 0.01$; $r = 0.26$ and severe disabilities $Z = 1.96$; $p < 0.05$; $r = 0.27$.

There was also a statistically significant relationship between the degree of disability and the rating of worse treatment upon presentation of a disability certificate $\chi^2 = 13.19$; $p < 0.01$; $\eta^2 = 0.08$. Individuals with moderate disabilities rated higher that the employer began treating them worse after they presented a disability certificate compared to

individuals with mild $Z = 2.05$; $p < 0.01$; $r = 0.19$ and severe disabilities $Z = 3.25$; $p < 0.01$; $r = 0.28$.

The degree of disability also affected the rating of being overlooked for important company projects $\chi^2 = 7.11$; $p < 0.05$; $\eta^2 = 0.04$. The analysis showed that individuals with a mild degree of disability rated discrimination in terms of not participating in important company projects lower $Z = 2.69$; $p < 0.01$; $r = 0.26$ than those with severe disabilities $Z = 1.89$; $p = 0.059$; $r = 0.27$ (result at the statistical trend threshold). These relationships were moderately strong. The data obtained allow partial confirmation of H2.

Additionally, the responses of the surveyed individuals regarding discrimination in the workplace were divided based on the median into no discrimination (up to the median value) and the occurrence of discrimination (above the median). Then, the relationship between the occurrence of discrimination in the workplace and the degree of disability was examined using Pearson's χ^2 tests. The results are presented in Table 4.

Table 4. Relationship between the occurrence of discrimination in the workplace and the degree of disability

| | | Mild | Moderate | Severe | χ^2 | p | V |
|--|-----|------------|------------|------------|----------|-------|------|
| Inconvenient job interview conditions | No | 11 (78.6%) | 49 (54.4%) | 21 (61.8%) | 3.08 | 0.214 | 0.15 |
| | Yes | 3 (21.4%) | 41 (45.6%) | 13 (38.2%) | | | |
| Worse employment and salary conditions | No | 12 (80%) | 46 (48.4%) | 20 (57.1%) | 5.41 | 0.067 | 0.19 |
| | Yes | 3 (20%) | 49 (51.6%) | 15 (42.9%) | | | |
| Being overlooked for training to improve professional qualifications | No | 13 (86.7%) | 58 (62.4%) | 23 (65.7%) | 3.39 | 0.184 | 0.15 |
| | Yes | 2 (13.3%) | 35 (37.6%) | 12 (34.3%) | | | |
| Worse treatment after presenting disability certificate | No | 11 (73.3%) | 45 (46.9%) | 28 (82.4%) | 14.60** | 0.021 | 0.32 |
| | Yes | 4 (26.7%) | 51 (53.1%) | 6 (17.6%) | | | |
| Lack of adaptation of the workstation to the needs | No | 10 (71.4%) | 54 (60%) | 19 (54.3%) | 1.23 | 0.541 | 0.09 |
| | Yes | 4 (28.6%) | 36 (40%) | 16 (45.7%) | | | |
| Lack of participation in important company projects | No | 13 (86.7%) | 50 (48.9%) | 23 (67.6%) | 5.35 | 0.069 | 0.20 |
| | Yes | 2 (13.3%) | 38 (37.2%) | 11 (32.4%) | | | |
| Overall assessment of discrimination | No | 12 (80%) | 49 (52.8%) | 25 (69.4%) | 7.15* | 0.028 | 0.22 |
| | Yes | 3 (20%) | 48 (51.7%) | 11 (30.6%) | | | |

χ^2 – Chi-square statistic, η^2 – magnitude of differences, * $p < 0.05$, ** $p < 0.01$.

Source: Own study.

The results of these analyses showed a statistically significant relationship between the degree of disability and the assessment of discrimination in the workplace by employers $\chi^2 = 7.15$; $p < 0.05$; $V = 0.22$. Overall, 20% of individuals with mild disabilities, 51.7% of individuals with moderate disabilities and 30.6% of individuals with severe disabilities experienced discrimination in the workplace. This relationship was moderately strong. Furthermore, a relationship was detailed between the degree of disability and the assessment of worse treatment after presenting the disability certificate $\chi^2 = 14.60$; $p < 0.01$; $V = 0.32$. Worse treatment after presenting the disability certificate was noted by 26.7% of those with mild disabilities, 53.1% of those with moderate disabilities and 17.6% of those with severe disabilities. This relationship was moderately strong.

4.3. Is discrimination influenced by the degree of disability?

The study also aimed to verify whether there was a relationship between the assessment of workplace discrimination and the disability symbol, H3: Discrimination is influenced by the disability symbol.

For this purpose, testing was performed, and the results are shown in Table 5. There was no statistically significant relationship between disability symbol and the assessment of discrimination in the workplace by employers. However, a statistically significant relationship was demonstrated between the disability symbol and the assessment that the job interview was arranged under conditions that made it impossible for the respondents to attend it $\chi^2 = 17.30$; $p < 0.01$; $\eta^2 = 0.10$. Individuals with speech and hearing impairments most frequently encountered unfavourable conditions during job interviews. The relationship between the type of disability and the assessment that the job interview was arranged under conditions that made it impossible for the respondents to attend it was moderately strong. Mann-Whitney U-test analyses showed statistically significant differences between those with speech and hearing impairments and those with neurological and movement disabilities $Z = 3.92$; $p < 0.001$; $r = 0.41$, vision impairments $Z = 1.92$; $p = 0.055$; $r = 0.26$ and other disabilities $Z = 2.70$; $p < 0.01$; $r = 0.34$. The results obtained allow only partial confirmation of hypothesis 3.

Table 5. The relationship between the occurrence of workplace discrimination and the disability symbol

| | Neurological and motor | | | Eyes | | | Speech and hearing | | | Other | | | χ^2 | p | η^2 |
|--|------------------------|------|-------|--------------------|------|-------|--------------------|------|-------|--------------------|------|-------|-------------|-------|----------|
| | M $\pm SD$ | Me | Rank | M $\pm SD$ | Me | Rank | M $\pm SD$ | Me | Rank | M $\pm SD$ | Me | Rank | | | |
| Inconvenient job interview conditions | 1.56 ± 1.07 | 1 | 59.33 | 1.89 ± 1.1 | 2 | 73.00 | 2.7 ± 1.47 | 3 | 90.53 | 1.76 ± 1.33 | 1 | 63.26 | 17.30 ** | 0.001 | 0.10 |
| Worse employment and salary conditions | 2.15 ± 1.28 | 2 | 65.58 | 2.35 ± 1.14 | 2.5 | 73.88 | 2.7 ± 1.36 | 3 | 82.92 | 2.52 ± 1.43 | 2 | 76.47 | 4.29 | 0.231 | 0.01 |
| Being overlooked for training to improve professional qualifications | 1.87 ± 1.15 | 1 | 64.21 | 2.16 ± 1.46 | 1 | 70.08 | 2.59 ± 1.43 | 2.5 | 85.11 | 2.23 ± 1.3 | 2 | 75.33 | 6.30 | 0.098 | 0.02 |

Table 5 (cont.). The relationship between the occurrence of workplace discrimination and the disability symbol

| | Neurological and motor | | | Eyes | | | Speech and hearing | | | Other | | | χ^2 | <i>p</i> | η^2 |
|--|------------------------|-----------|-------------|----------------------|-----------|-------------|----------------------|-----------|-------------|----------------------|-----------|-------------|----------|----------|----------|
| | <i>M</i> $\pm SD$ | <i>Me</i> | <i>Rank</i> | <i>M</i> $\pm SD$ | <i>Me</i> | <i>Rank</i> | <i>M</i> $\pm SD$ | <i>Me</i> | <i>Rank</i> | <i>M</i> $\pm SD$ | <i>Me</i> | <i>Rank</i> | | | |
| Worse treatment after presenting disability certificates | 1.85 ± 1.26 | 1 | 72.45 | 1.4 ± 0.88 | 1 | 57.05 | 2.12 ± 1.34 | 1.5 | 80.15 | 2 ± 1.29 | 1 | 76.52 | 5.13 | 0.163 | 0.01 |
| Lack of workplace accommodation | 2.27 ± 1.36 | 2 | 69.02 | 2.53 ± 1.35 | 2 | 77.76 | 2.13 ± 1.36 | 1.5 | 64.17 | 2.38 ± 1.29 | 2 | 73.34 | 1.76 | 0.624 | 0.01 |
| Lack of participation in important company projects | 2.16 ± 1.39 | 2 | 66.91 | 2.3 ± 1.26 | 2 | 73.53 | 2.14 ± 1.36 | 2 | 66.72 | 2.3 ± 1.34 | 2 | 72.23 | 0.80 | 0.850 | 0.02 |
| Overall assessment of discrimination | 1.98 ± 0.96 | 1.83 | 67.02 | 2.1 ± 0.74 | 2 | 77.08 | 2.41 ± 1.15 | 2.42 | 83.09 | 2.21 ± 0.94 | 1.92 | 78.27 | 3.60 | 0.308 | 0.00 |

M – mean, *SD* – standard deviation, *Me* – median, *Rank* – mean rank, χ^2 – Chi-square statistic, η^2 – magnitude of differences, **p* < 0.05, ***p* < 0.01

Source: Own study.

Table 6 shows the results of analyses using Pearson's χ^2 tests for the effect of respondents' disability symbol on their experience of workplace discrimination by their employer. The results were mostly found to be statistically insignificant $p > 0.05$. However, a statistically significant relationship was demonstrated between the disability symbol and the assessment that the job interview was arranged under conditions that made it impossible for the respondents to attend it $\chi^2 = 15.14$; $p < 0.01$; $V = 0.33$.

Table 6. Relationship between the occurrence of workplace discrimination and the disability symbol

| | | Neurological and motor | Eyes | Speech and hearing | Other | χ^2 | <i>p</i> | <i>V</i> |
|--|-----|------------------------|------------|--------------------|------------|-------------|----------|----------|
| Inconvenient job interview conditions | No | 41 (71.9%) | 9 (47.4%) | 11 (33.3%) | 20 (69%) | 15.14 ** | 0.002 | 0.33 |
| | Yes | 16 (28.1%) | 10 (52.6%) | 22 (66.7%) | 9 (31%) | | | |
| Worse employment and salary conditions | No | 40 (65.6%) | 10 (50%) | 12 (36.4%) | 16 (51.6%) | 7.61 | 0.055 | 0.23 |
| | Yes | 21 (34.4%) | 10 (50%) | 21 (63.6%) | 15 (48.4%) | | | |

Table 6 (cont.). Relationship between the occurrence of workplace discrimination and the disability symbol

| | | Neurological and motor | Eyes | Speech and hearing | Other | χ^2 | <i>p</i> | <i>V</i> |
|--|-----|------------------------|------------|--------------------|------------|----------|----------|----------|
| Being overlooked for training to improve professional qualifications | No | 47 (75.8%) | 12 (63.2%) | 16 (50%) | 19 (63.3%) | 6.44 | 0.092 | 0.21 |
| | Yes | 15 (24.2%) | 7 (36.8%) | 16 (50%) | 11 (36.7%) | | | |
| Worse treatment after presenting disability certificate | No | 34 (56.7%) | 16 (80%) | 17 (50%) | 17 (54.8%) | 5.04 | 0.169 | 0.19 |
| | Yes | 26 (43.3%) | 4 (20%) | 17 (50%) | 14 (45.2%) | | | |
| Lack of workplace accommodation | No | 36 (61%) | 11 (57.9%) | 20 (62.5%) | 16 (55.2%) | 0.42 | 0.936 | 0.05 |
| | Yes | 23 (39%) | 8 (42.1%) | 12 (37.5%) | 13 (44.8%) | | | |
| Lack of participation in important company projects | No | 39 (67.2%) | 12 (60%) | 18 (62.1%) | 17 (56.7%) | 1.05 | 0.790 | 0.09 |
| | Yes | 19 (32.8%) | 8 (40%) | 11 (37.9%) | 13 (43.3%) | | | |
| Overall assessment of discrimination | No | 42 (67.7%) | 11 (55%) | 16 (47.1%) | 17 (53.1%) | 4.48 | 0.215 | 0.17 |
| | Yes | 20 (32.3%) | 9 (45%) | 18 (52.9%) | 15 (46.9%) | | | |

χ^2 – Chi-square statistic, *V* – Cramer's V coefficient, **p* < 0.05, ***p* < 0.01

Source: Own study.

Individuals with speech and hearing disabilities, in 66.7% of cases, reported inconvenient conditions for job interviews, and this opinion was shared by 52.6% of individuals with visual impairments, 28.1% of individuals with non-neurological and mobility disabilities, and 31% of individuals with other disabilities. This relationship was moderately strong.

4.4. Is discrimination influenced by the characteristics of respondents?

Additionally, an examination was conducted on how the experience of discrimination in the workplace be influenced by certain characteristics of individuals with disabilities, H4: Possession of certain characteristics conditions the experience of discrimination.

For this purpose, a series of analyses with Pearson's χ^2 tests were performed, and the results are presented in Table 7.

Table 7. Relationship between experiencing discrimination at work and the characteristics of respondents

| | | Discrimination | | χ^2 | <i>p</i> | <i>V</i> |
|---------------------------------------|--|----------------|------------|----------|--------------|----------|
| | | No | Yes | | | |
| Gender | Women | 56 (55.4%) | 45 (44.6%) | 0.93 | 0.336 | 0.08 |
| | Men | 30 (63.8%) | 17 (36.2%) | | | |
| Place of residence | Village | 21 (65.6%) | 11 (34.4%) | 8.43 | 0.077 | 0.24 |
| | City with a population of up to 50,000 | 4 (25%) | 12 (75%) | | | |
| | City with a population from 50,000 to 150,000. | 11 (64.7%) | 6 (35.3%) | | | |
| | City with a population from 150,000 to 500,000 | 25 (61%) | 16 (39%) | | | |
| | City with a population of more than 500,000 | 25 (59.5%) | 17 (40.5%) | | | |
| Education | Vocational | 8 (80%) | 2 (20%) | 4.81 | 0.090 | 0.18 |
| | Moderate | 12 (42.9%) | 16 (57.1%) | | | |
| | Higher | 66 (60%) | 44 (40%) | | | |
| Net earnings | Less than PLN 2,780 | 19 (47.5%) | 21 (52.5%) | 8.42* | 0.038 | 0.24 |
| | PLN 2,780 – 3,599 | 23 (48.9%) | 24 (51.1%) | | | |
| | PLN 3600 – 5350 | 25 (71.4%) | 10 (28.6%) | | | |
| | More than PLN 5,350 | 19 (73.1%) | 7 (26.9%) | | | |
| Do you work in a managerial position? | No | 71 (55.9%) | 56 (44.1%) | 1.78 | 0.182 | 0.11 |
| | Yes | 15 (71.4%) | 6 (28.6%) | | | |

χ^2 – Chi-square statistic, *V* – Cramer's V coefficient

Source: Own study.

A statistically significant relationship between experiencing discrimination in the workplace and salary level $\chi^2 = 8.42$; $p < 0.05$; $V = 0.24$ has been demonstrated. Individuals earning up to PLN 2,780 PLN (52.5%) or between PLN 2,780 – 3,599 (51.1%) experience workplace discrimination more frequently, while those earning between PLN 3,600 – 5,350 (28.6%) and above 5,350 PLN (26.9%) experience it less often. However, no correlation was found between workplace discrimination and gender, place of residence, education, and working in a managerial position. Thus, the results obtained allow only partial confirmation of hypothesis 4.

5. SUMMARY AND CONCLUSIONS

The purpose of this study was to identify the existence of human resource management dysfunction in the form of job discrimination against individuals with disabilities. In the context of a labour shortage, any resource that can generate benefits for the national economy should be valued.

The research results have shown that the majority of individuals with disabilities experience little discrimination in the workplace. This suggests that positive changes have

occurred in Polish society over the past decades, influencing the social acceptance of disability. Unfortunately, there is still a correlation between the experience of discrimination and the degree or symbol of disability. Individuals with moderate disabilities feel the most discriminated against in the workplace. They also declare that employers started treating them worse after presenting a disability certificate. Among the types of disabilities, only those with speech and hearing impairments faced discrimination, most often in the form of inconvenient conditions of the job interview. Discrimination in these areas can lead to occupational segregation of employees by industry and occupation, and thus promote further pathologies in human resource management. Hiring individuals with disabilities basing not on their education, but on segregation by degree or disability symbol, can lead to a significant disparity in earnings in relation to earning potential.

REFERENCES

- Ballo, J.G. (2023). *Is the disability wage gap a gendered inequality? Evidence from a 13-year full population study from Norway*. "Social Science & Medicine", 331. DOI: 10.1016/j.socscimed.2023.116077.
- Choi, G.S., Storr, V.H. (2023). *The morality of markets in theory and empirics*. "Journal of Economic Behavior & Organization", 216. DOI: 10.1016/j.jebo.2023.09.019.
- Czajkowska, A., Ingaldi, M. (2023). *Analysis of the survey results on the pro-ecological awareness of young people in the aspects of sustainable development*. "Management Systems in Production Engineering", 31(3). DOI: 10.2478/mspe-2023-0035.
- Doroszewski, W., ed. (1962). *Dictionary of the Polish language*. Warsaw: PWN Scientific Publishers.
- Gąciarz, B. (2014). *Social integration and professional activation of disabled people living in small towns and rural areas: determinants of success and failure: a research report*. Warsaw: Wydawnictwo IFiS PAN.
- Giermanowska, E., Kumaniecka-Wiśniewska, A., Raclaw, M., Zakrzewska-Menterys, E. (2015). *Entry of disabled university graduates into the labour market*. Warsaw: University of Warsaw Publishing House.
- Goffman, E. (2005). *Stigma. Reflections on wounded identity*. Gdańsk: GWP.
- Jolly, N.A., Wagner, K.L. (2023). *Work-limiting disabilities and earnings volatility*. "Labour Economics", 81, DOI: 10.1016/j.labeco.2023.102333.
- Kayama, M., Johnstone, C. & Limaye, S. (2019). *Adjusting the "self" in social interaction: Disability and stigmatization in India*. "Children and Youth Services Review", 96. DOI: 10.1016/j.childyouth.2018.11.047.
- Kildal, J., Martín, M., Ipiña, I., Mautua, I. (2019). *Empowering assembly workers with cognitive disabilities by working with collaborative robots: a study to capture design requirements*. "Procedia CIRP", 81, DOI: 10.1016/j.procir.2019.03.202.
- Kim, E.J., Parish, S.L., Skinner, T. (2019). *The impact of gender and disability on the economic well-being of disabled women in the United Kingdom: a longitudinal study between 2009 and 2014*. "Social Policy & Administration", 53(7). DOI: 10.1111/spol.12486.
- Kiliańska, K., Pajęcki, M. (2022). *Identification of customers' purchasing behaviour profiles in the context of corporate social responsibility*. "Scientific Papers of Silesian University of Technology – Organization and Management Series", 162. DOI: 10.29119/1641-3466.2022.162.17.

- Lorenti, A., Dudel, C., Hale, J.M., Myrskylä, M. (2020). *Working and disability expectancies at older ages: The role of childhood circumstances and education*. "Social Science Research", 91. DOI: 10.1016/j.ssresearch.2020.102447.
- Macdonald, D., Peacock, K., Dew, A., Fisher, K.R., Boydell, K.M. (2022). *Photovoice as a platform for empowerment of women with disability*. "SSM – Qualitative Research in Health", 2. DOI: 10.1016/j.ssmqr.2022.100052.
- Mikołajczyk-Lerman, G. (2013). *Between exclusion and integration: realization of the rights of a disabled child and his family: a sociological analysis*. Łódź: University of Lodz Publishing House.
- Niedzielski, E. (2014). *Selected employment problems of persons with disabilities*. "Optimum. Economic Studies", 2(68).
- Parchomiuk, M. (2019). *Research involving people with intellectual disabilities. Methodological and ethical issues*. "Yearbooks of pedagogy", 11(47). DOI: 10.18290/rped.2019.11.3-5.
- Rymsza, M. (2013). *Activism in social policy. Towards a reconstruction of European welfare states?*. Published by the Institute of Philosophy and Sociology of the Polish Academy of Sciences.
- Świątkowski, A.M. (2010). *Polish labour law*. Warsaw: LexisNexis Publishers.
- Titchkosky, T. (2023). *Disability and society: changing our frames of reference*. Tierney, R.J., Rizvi, F., Ercikan, K., eds. (2023). *International Encyclopedia of Education* (Fourth Edition), Elsevier. DOI: 10.1016/B978-0-12-818630-5.12006-8.
- Polish Act of 26 June 1974 Labour Code [Ustawa z dnia 26 czerwca 1974 r. Kodeks pracy] – consolidated text dated 16 June 2023 (Dz.U. poz. 1465).

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THE UTAUT CONCEPT IN PUBLIC ORGANIZATIONS – RESULTS OF AN EMPIRICAL STUDY

Changes in social, political, economic, and demographic fields are making public sector organizations look for new ways to deliver public services. Simultaneously, the cultural transformations that occurred during the final decade of the 20th century, resulting from the transition from an industrial civilization to a knowledge civilization and the dominance of information-communications technologies (ICTs), have profoundly impacted not only the extent and caliber of interactions among individuals but also the conditions under which organizations operate. Consequently, the public sector is forced to undergo extensive digital transformation. To achieve a successful transformation, however, the changes must be embraced by the end users, specifically those employed in the public sector. In this article, the results of a study on the acceptance of modern technology by public organizations in Poland are presented. The study uses the UTAUT model.

Keywords: public organization, local authority, digitalization, UTAUT model.

1. INTRODUCTION

The observed social, political, economic, and demographic shifts are compelling public sector organisations to explore novel approaches to efficiently and effectively provide public services (Kitsios et al., 2023; Adreoni, Mambretti, 2021). Simultaneously, the transition from an industrial to a knowledge-based society and the dominance of information-communications technologies (ICTs) have significantly impacted the operational conditions of organisations. The contemporary organizational context is characterized by extensive digitalization and the provision of technical capabilities for the continuous communication of individuals, individuals with devices, and devices with one another. Recent years have witnessed the emergence of disruptive innovations that have led to a significant increase in productivity and efficiency within the socio-economic system. Moreover, it has been observed that machines have progressively acquired the capability to operate autonomously by incorporating artificial intelligence (AI) into their control process (Frczkiewicz-Wronka, Ziemia, 2022). Recently, we have seen the dynamic development of digitisation, which has been further accelerated by the global COVID-19 pandemic.

The European Union is helping countries become more digital by giving them more money for ICT development and changing the goals in their EU plans. The most recent

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strategy, Digital Compass 2030. It focuses activities on creating conditions for achieving four main goals: (1) a digitally skilled society and highly skilled digital professionals; (2) a secure, efficient, and sustainable digital infrastructure; (3) digital transformation of businesses; and (4) digital transformation of public services. This article presents the results of research on digitisation in public organisation management and especially the results on the unified theory of technology acceptance and use developed by Venkatesh (2003, 2022).

2. DIGITALIZATION IN PUBLIC ORGANISATION

The imperative to enhance the quality of life and devise more efficient methods of providing services has resulted in a heightened utilization of the Industry 4.0 concept in other domains such as urban management, public and social services, and healthcare systems. In the public sector, utilizing contemporary technology can enhance the efficiency of operations. Individual organisations or whole parts of the public service can accomplish this. This is called Government 4.0. (Naqvi Al., Munoz, 2020). It is not a single and short-term implementation of a specific technology, rather it is a long-term evolutionary process of transforming the government/public sector to focus on citizen services (Walenciak, 2018). The evolution towards Government 4.0 following Janowski (2015) can be divided into four stages:

1. Digitalisation is the implementation of ICT to improve its internal processes and structures, for example, by launching websites.
2. Transformation means using ICT to change how the government works, without changing how people interact with it, like e-government.
3. Engagement is the use of ICT to support both internal processes and the communication and relations of the public administration with stakeholders, such as processes, public services, and governance.
4. Contextualisation: how ICT use affects the whole public sector and its stakeholders.

The utilization of contemporary technology within the public sector has the potential to enhance the provision of public services and enhance the optimal utilization of available resources. The benefits of using modern technology in the public sector (Väyrynen, Helander, Jalonen (ed.), 2023; Ziemba, Papaj, 2023; Naqvi Al, Munoz, 2020; Stern, Daub et al., 2018; Walencik, 2018) include: Identification of problems in real time and faster response to them; faster and more efficient decision-making and more accurate decisions; access to huge amounts of data, which allows improving the analysis carried out, provides new *evidence for the design and adaptation of public policies to the new reality (evidence-based public policies)*; reduction of time in dealing with official matters, bureaucracy, more personalised service for citizens and business; cost reductions; increased efficiency of the administration; improved innovation in public service delivery; ICT enables the introduction of reforms relating to the way in which public organisations operate; increased transparency of public sector activities; increased quality of services; new channels of communication and, as a result, improved information flow and support for active citizen participation.

To get the most out of using Industry 4.0 in the public sector, we need to overcome new challenges. Among them, we can point out (Kitsios et al., 2023; Kuhlmann, Heuberger, 2021; Naqvi Al, Munoz, 2020): (1) the often outdated information technology (IT) infrastructure in public organisations; (2) the lack of statistical awareness and the lack of tool experience of staff (especially relevant for Big Data analyses); (3) the problem of data access while protecting sensitive data; (4) the low quality of available data (e.g.

incompleteness); (5) problem of bureaucratic internal procedures in the organisation; (6) lack of financial resources; (7) lack of trust of users (citizens) in new technological solutions; (8) resistance of employees of public organisations; (9) lack of specialists; (10) outdated regulations and working procedures; (11) administrative law.

The incorporation of contemporary technology into the operations of the public sector represents a significant alteration in its fundamental principles and necessitates a proficient management of the transformation process. Müller and Abildgaard Skau (2015), based on a literature review, identified six areas that need to be analysed in the change process to increase the likelihood of success, viz:

- External environment (legislation, political and administrative reforms, socio-economic factors).
- Organisation (financial resources, organisational infrastructure, cooperation, stakeholders, organisational culture).
- Governance (commitment, strategy, project management).
- Employees (human resources, resistance to change, education and training).
- Citizens (digital exclusion, education and training, citizens' needs and trust).
- Technology (infrastructure, security, design, and access).

One of the areas identified is employees, human resources, for whom the natural reaction is resistance to change. At the same time, it is their acceptance of modern technologies that largely determines the success of innovative projects aiming to digitise the public sector. One of the concepts of acceptance of modern technologies used in the literature is that proposed by Venkatesh (2003, 2022), the so-called unified theory of acceptance and use of modern technologies – UTAUT.

3. UTAUT MODEL

The purpose of developing the UTAUT model was to better understand the intention to use a given technology and the behaviour resulting from user intentions. The model builds on previous models, e.g. TAM and TAM2, but according to the authors of the UTAUT model, these models only have a direct bearing on the perceived usability of a system and the elements they indicate do not affect perceived ease of use (Gromadka, 2020; Venkatesh, Davis, 2000). The unified theory of acceptance and use of technology (UTAUT) used in this research assumes that there are four determinants influencing the intention to use a technology. These are: expected performance, expected effort, social influence and favourable circumstances (Soltysik-Piorunkiewicz, Zdonek, 2015). An expected performance is the belief that the use of a given technology will help achieve benefits or higher performance in accomplishing important tasks. The degree of difficulty in using a given technology is measured by the effort expectancy. Social influence is the degree to which a person believes that people who are influential to them would also use the technology. A favourable circumstance is when a person is convinced that the appropriate technical and organizational framework exists to offer assistance when the technology's usage proves challenging. These determinants influence users' intentions to use modern technology. Moderating constructs in the UTAUT model are gender, age, user experience and voluntariness of use.

4. RESEARCH METHODOLOGY

The research team conducted an analysis of the literature on the subject to prepare a questionnaire survey addressed to the managers of local government units at the commune level, i.e. to mayors and presidents. Furthermore, it was allowed for the mayor to delegate the completion of the questionnaire to an appropriate office employee who is competent to answer the questions contained in the survey questionnaire.

357 units were surveyed. The territorial distribution of the respondent group is shown in Table 2.

Table 1. Sample structure by province (percentage (%) and number (n))

| Province | % | n |
|---------------------|---------|-----|
| Lower Silesia | 9.52% | 34 |
| kujawsko-pomorskie | 5.60% | 20 |
| Lublin | 7.28% | 26 |
| Lubuskie | 3.08% | 11 |
| Łódź | 7.84% | 28 |
| Małopolskie | 7.28% | 26 |
| Mazowieckie | 12.32% | 44 |
| Opolskie | 3.64% | 13 |
| Podkarpackie | 5.32% | 19 |
| Podlaskie | 3.92% | 14 |
| Pomeranian | 4.76% | 17 |
| Silesia | 6.44% | 23 |
| Świętokrzyskie | 4.76% | 17 |
| Warmińsko-mazurskie | 4.48% | 16 |
| Wielkopolskie | 8.12% | 29 |
| Zachodniopomorskie | 5.60% | 20 |
| Total | 100.00% | 357 |

Source: Own study.

The largest percentage of municipalities were in the Mazowieckie voivodship, followed by Dolnośląskie and Wielkopolskie. In terms of the type of municipality represented by the respondent, 21% (76 municipalities) were urban municipalities, 50% (177 municipalities) were rural municipalities and 29% (104) were rural-urban municipalities. By job position, among the 357 respondents - 79 (22%) held the position of mayor, 93 (26%) the position of mayor and 185 (52%) others. There were no city mayors among the respondents. The vast majority of respondents (68%) were over the age of 46. The gender structure of respondents was as follows – 53% of respondents were female, 47% male. The predominant education among respondents was tertiary education (99.4%). Respondents were asked to rate how much they agreed with the statements in the questionnaire. Ratings were made on a 5-point Likert scale: 5 – agree; 4 – rather agree, 3 – neither agree nor disagree, 2 – rather disagree, 1 – disagree. Respondents were asked 18 questions.

The aim of the research conducted was to assess the variables influencing intentions to use modern technology among managers of public organisations. For this purpose, the unified theory of acceptance and use of technology (UTAUT) concept proposed by Venkatesh et al. (2003, 2022).

5. RESULTS OF EMPIRICAL STUDIES

The survey results obtained, presented in Table 2, indicate that respondents are relatively positive about the determinants indicated in the UTAUT model. The majority of ratings for expected performance are 'rather agree' and 'agree'. Additionally, respondents believe that digitisation tools have a positive impact on the outcomes of their work. The survey reveals that more than 80% of the respondents in the public sector possess a seniority of over 10 years, thereby enabling them to make a comprehensive assessment of their expected performance over a long period of time. The majority of respondents stated that they support the introduction of digitalisation tools in their office. There is a high value placed on digital competence by respondents, and the implementation of a digitalization tool within the organisation is not perceived as a burden by them. The majority of respondents confirmed a favourable environment for the implementation and use of digitalization tools.

Table 2. Determinants of the use of modern technology in a public organisation (percentage, %)

| Deter- minant | Statement / Question | Answer | | | | |
|----------------------|---|--------|------|------|-------|-------|
| | | 1 | 2 | 3 | 4 | 5 |
| Expected performance | The use of digitalisation tools at work has increased your productivity, i.e. the goods/services produced have more value than the inputs used to produce them. | 0,6% | 4,5% | 6,2% | 53,2% | 35,6% |
| | By using digitalisation tools at work, you perform your tasks faster. | 0,3% | 1,7% | 3,1% | 45,1% | 49,9% |
| | You believe that the use of digitalisation tools is essential for the effective resolution of residents' issues. | 0,3% | 4,2% | 5,3% | 55,5% | 34,7% |
| | The use of digitalisation tools increases residents' satisfaction with your work. | 0,8% | 5,6% | 5,6% | 53,5% | 34,5% |
| Social impact | Influencers at work think you should intensify your use of digitalisation tools in your work. | 0,3% | 9,8% | 5,3% | 56,6% | 28,0% |
| | As a supervisor, you support the introduction of digitalisation tools in the office. | 0,0% | 1,1% | 4,5% | 58,8% | 35,6% |
| | In your office, a large proportion of employees use digitalisation tools in their daily work. | 0,0% | 1,1% | 2,2% | 53,2% | 43,4% |

Table 2 (cont.). Determinants of the use of modern technology in a public organisation (percentage, %)

| Deter- minant | Statement / Question | Answer | | | | |
|-------------------------------------|--|--------|------|------|-------|-------|
| | | 1 | 2 | 3 | 4 | 5 |
| Expected effort | The digitalisation tools being introduced in the office are clear and understandable to you. | 0,3% | 0,8% | 3,9% | 54,1% | 40,9% |
| | You assimilate new developments in the use of digitalisation tools at work with ease and without difficulty. | 0,0% | 2,2% | 3,1% | 57,7% | 37,0% |
| | You find it easy and effortless to use digitalisation tools at work. | 0,0% | 2,0% | 3,1% | 50,1% | 44,8% |
| | You are quick to learn and become proficient in the use of digitalisation tools. | 0,0% | 1,4% | 3,4% | 56,3% | 38,9% |
| Favourable conditions | You have been given the opportunity to gain knowledge and skills in using digitalisation tools in your office. | 0,0% | 0,3% | 2,0% | 61,9% | 35,9% |
| | You have been provided with the resources necessary to use digitalisation tools (software and hardware). | 0,3% | 1,1% | 4,8% | 50,4% | 43,4% |
| | There is an organisational unit/person in your office to whom you can turn if you have problems using digitalisation tools. | 0,3% | 0,6% | 3,9% | 53,2% | 42,0% |
| | Your office supports (e.g. through training) the use of digitalisation tools by staff in their dealings with residents. | 0,3% | 0,6% | 4,2% | 61,1% | 33,9% |
| Intentions to use modern technology | Given your current level of access to digitisation tools, you anticipate using them at your current level. | 0,3% | 1,7% | 4,5% | 61,6% | 31,9% |
| | Assuming your current level of access to digitalisation tools, you intend to expand your competence in using such solutions. | 0,3% | 0,6% | 2,8% | 59,1% | 37,3% |
| | In your work, it is important to expand your competence to use digitalisation tools. | 0,3% | 0,3% | 1,4% | 54,1% | 44,0% |

Source: Own study.

Research results indicate that the process of digitisation in public organisations is relatively well perceived by managers. The report also points out that some digital tools are being incorporated into the public sector in a mandatory, which requires further development of managerial skills and the creation of conditions favourable to the users of new solutions.

6. CONCLUSION

The pursuit of digital transformation in the public sector is not solely the responsibility of managers. It is imperative to provide better opportunities to consider the needs of residents and establish closer relationships with them, as it facilitates a shift from viewing the resident as a customer to building partnerships and active participation in the provision of public services (Kitsios et al., 2023; Bason, 2018). The incorporation of residents in the provision or, more broadly, in the co-creation of public services through the utilization of digital tools appears to be an intriguing avenue for future research.

Public organisations must fulfil three basic roles in a digital transformation environment – facilitator, user, and regulator (Naqvi Al, Munoz, 2019). The facilitator should ensure the advancement and adaptation of contemporary technologies, among other things, through financial assistance and the establishment of fresh entities. Moreover, it is imperative for public entities to actively engage with contemporary technologies, such as artificial intelligence and Big Data, in their daily operations, to formulate novel public policies that are more agreeing with the evolving realities. As a regulator, public organisations or the public sector more broadly are responsible for the legislative process focusing on the ethical issues of using modern technologies and data security

REFERENCES

- Andreoni, G., Mambretti, C., eds. (2021). *Digital health technology for better aging: A multidisciplinary approach*. Springer.
- Bason, C. (2018). *Leading public sector innovation 2E: Co-creating for a better society*. Policy Press.
- Chute, C., French, T. (2019). *Introducing care 4.0: An integrated care paradigm built on industry 4.0 capabilities*. „*International Journal of Environmental Research and Public Health*”, 16(12). DOI: 10.3390/ijerph16122247.
- Di Giulio, M., Vecchi, G. (2023). *Implementing digitalization in the public sector: Technologies, agency, and governance*. „*Public Policy and Administration*”, 38(2). DOI: 10.1177/09520767221075465.
- Frączkiewicz-Wronka, A., Ziemia, E. (2022). *Wpływ koncepcji Healthcare 4.0 na digitalizację sektora usług zdrowotnych* [In:] Waśniewski, J., Strumiłło, J., eds., *Uwarunkowania digitalizacji usług zdrowotnych* (p. 45–64). Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego.
- Gromadka, D. (2020). *Modele akceptacji technologii – Krytyczna analiza piśmiennictwa*. „*Akademia Zarządzania*”, 4(2).
- Janowski, T. (2015). Digital government evolution: *From transformation to contextualization*. „*Government Information Quarterly*”, 32(3). DOI: 10.1016/j.giq.2015.07.001.
- Kitsios, F., Kamariotou, M., Mavromatis, A. (2023). *Drivers and outcomes of digital transformation: The case of public sector services*. „*Information*”, 14(43). DOI: 10.3390/info14010043.
- Kuhlmann, S., Heuberger, M. (2021). *Digital transformation going local: Implementation, impacts and constraints from a German perspective*. „*Public Money & Management*”, 41(1). DOI: 10.1080/09540962.2021.1930266.
- Muller, S.D., Abildgaard Skau, S. (2015). *Success factors influencing implementation of e-government at different stages of maturity: A literature review*. „*International Journal of Electronic Governance*”, 7(2). DOI: 10.1504/IJEG.2015.072071.

- Naqvi, A., Munoz, J.M. (2020). *Handbook of artificial intelligence and robotic process automation: Policy and government applications*. Anthem Press.
- Sołtysik-Piorunkiewicz, A., Zdonek, I. (2015). *Model UTAUT w świetle badań społeczeństwa informacyjnego w Polsce w obszarze e-podatków*. „Roczniki Kolegium Analiz Ekonomicznych”, 38.
- Stern, S., Daub, M., Klier, J., Wiesinger, A., Domeyer, A. (2018). *Government 4.0 – The public sector in the digital age*. McKinsey.
- Walencik, K. (2018). *Zastosowanie rozwiązań e-government w jednostkach samorządu terytorialnego*. „Studia Ekonomiczne”, 368.
- Väyrynen, H., Helander, N., Jalonen, H., eds. (2023). *Public innovation and digital transformation*. Routledge.
- Venkatesh, V., Davis, F.D. (2000). *A theoretical extension of the technology acceptance model: Four longitudinal field studies*. „Management Science”, 46(2). DOI: 10.1287/mnsc.46.2.186.11926.
- Venkatesh, V., Morris, M.G., Davis, G.B., Davis, F.D. (2003). *User acceptance of information technology: Toward a unified view*. „MIS Quarterly”, 27(3). DOI: 10.2307/30036540.
- Venkatesh, V. (2022). *Adoption and use of AI tools: A research agenda grounded in UTAUT*. „Annals of Operations Research”, 308. DOI: 10.1007/s10479-020-03685-9.
- Ziemba, E., Papaj, T. (2023). *Cyfryzacja w zarządzaniu publicznym* [In:] Frączkiewicz-Wronka, A., Ćwiklicki, M., eds., *Zarządzanie publiczne: Perspektywa teorii i praktyki* (p. 85–106). Katowice: Wydawnictwo Uniwersytetu Ekonomicznego w Katowicach.

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ON THE APPLICATION OF THE CONVERSION METHOD FOR WEBSITE EVALUATION OF POLISH BANKS IN 2022

This article aims to examine the application of the new conversion method for evaluating electronic banking services. The conversion method consists of aggregating the average ratings of the respondents. Its intuitiveness results from the data collection process; the results collected from the respondents are converted using the algorithm presented in this article into the final result. The data was collected in 2022 using the CAWI method. The results of the calculations are compared with the results obtained by the scoring method, and the differences are interpreted. The conversion method reduces the subjectivity of the test results. The results indicate that economic factors have a large impact on users' opinions about the quality of banking services. This is additionally confirmed by research conducted among this group of customers. The main implication for researchers is to demonstrate the effectiveness of the conversion method in the analysis of electronic banking services.

Keywords: e-banking, evaluation methods of websites, scoring method, MCDA, Conversion method.

1. INTRODUCTION

The primary objective of this article is to assess the suitability and applicability of the Conversion method for evaluating websites and banking applications. To date, the long-term research the authors have been conducting since 2008 has shown that such an analysis can be both justified and highly beneficial in the following situations (Chmielarz, Zborowski, 2013):

- ranking websites from the perspective of the average e-banking user,
- indicating the bank with the highest website usability that can serve as a model for other banks,
- demonstrating which website attributes the average user considers most important and is most likely to rate highly,
- creating guidelines and a potential model for bank website designers,

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- exploring existing methods for evaluating bank websites and determining which one is the best from the user's perspective (e.g., considering ease of evaluation and interpretation of results).

Decision-making, especially financial decision-making when facilitated through a website, is a complex task that involves numerous evaluation criteria, often conflicting or closely interconnected. The relevance of these criteria depends mostly on the user's own judgement. Therefore, the analysis and evaluation of web services and applications can aid in facilitating such decision-making processes. There are many multi-criteria methods, sometimes very sophisticated ones, which support such decisions. Multi-criteria methods generally do not yield an optimal value for a single indicator but rather provide a 'compromise' Pareto-optimal value (Roy, 1996). Multi-criteria decision-making methods emerged in the second half of the 1970s (Keenney, Raiffa, 1976; Nijkamp, Delft, 1977). Recent studies (Wątróbski et al., 2019) show that in most cases multi-criteria analysis methods are used to solve these problems (MCDA – Multi-Criteria Decision Analysis Method).

The simplest of these are scoring methods (Krzanowski, 2000), involving the attribution of a specific rating scale to distinguished criteria. Scoring methods, relying on the direct opinions of users, are classified as subjective. With large numbers of users, the subjectivity of this method generally decreases. The subjectivity associated with scoring methods can also be mitigated by employing a preference scale that is assigned to the respondents. This scale can be calculated as an average of the sample or assigned randomly. Nevertheless, even though its results are similar to other methods, e.g. TOPSIS (Chmielarz, Zborowski, 2018), it is not regarded as very sophisticated. However, it offers undeniable advantages in terms of its ease of application during surveys and subsequent interpretation of results as well as comprehensibility from the users' perspective. In this context, it can seem perplexing that the group of AHP/ANP methods (Saaty, 1990; 2008a) are seen as objective, especially since users are asked to compare relationships between very distant variables (in the case of financial portals, financial and strictly technical attributes are assessed simultaneously), and with the same number of attributes being compared, the user has to fill in an incomparably larger number of tables, in which the relationships between attributes are often determined intuitively. If respondents do not grasp the underlying assumptions of the method, the researchers should explain those assumptions to them, sometimes repeatedly. The question arises: Might this not occasionally impact the outcome of the data collection?

A similar scenario arises when employing methods from the group of PROMETHEE (Brans, Mareschal, 2005; Brans et al., 1986) and ELECTRE (Karagiannidis, Moussiopoulos, 1997). The concept of relevance weights is still understandable to the user, but how does it differ from preference weights? Is the concept of indifference weights or the veto threshold involved? As a result, users of portals often provide assessments in a haphazard manner. Examples of subjectivism present in various methods considered objective can be numerous and diverse (Saaty, 2008b). Another issue concerns the interpretation of the obtained results. In simple methods, the ranking is determined by the position achieved based on the average ratings received, with potential relations between them being established by preference indicators. However, there arises a challenge of how to interpret the results of relational methods in a manner that is fully understandable to the user. Certainly, it is possible to determine the ranking of the positions occupied by individual websites, using relational methods. However, calculating the differences

between these positions presents challenges that are more logical than technical in nature. Also, statistical methods may not offer contribute to a better understanding of the results.

It is important to acknowledge that banking websites and applications possess one specific characteristic. Unlike e-commerce sites, their evaluation is influenced not only by technical attributes but also by crucial financial attributes.

In the existing research, a research gap exists regarding the development of an evaluation method that enables non-professional users to collect data easily and accurately, while simultaneously addressing the challenging issue of substitutability.

In order to at least partially address this problem, a proprietary, Conversion method, was devised to evaluate web portals, specifically tailored for evaluating e-banking sites. This method takes into account the relationship between the results obtained and the calculated averages for individual portals and their attributes. Since its first version in 2008, this method has also been revised and verified while examining data related to other industries. In this article, we revisit the verification of this concept by comparing the results received with the Conversion method with those obtained by simple scoring methods.

In order to achieve the above objective, the following structure of the article was adopted. After an introduction to the topic and presentation of the purpose of the article, the second section presents a literature review on banking services and applications and the multi-criteria methods used to evaluate them. The third section describes the research procedure, evaluation methods and the characteristics of the research sample. The next section presents the study findings and their discussion. The last section contains the conclusions, limitations of the study and further conditions of the research.

2. LITERATURE REVIEW

Methods for evaluating IT systems, including assessing customer interactions, have long played a pivotal role in IT project management. The emergence of the Internet and the consequent shift of customer interactions to the virtual realm further confirmed the need for their application. The evaluation process takes place on two levels:

- internal – the system fulfils as many functionalities as possible that are necessary for the operation of the organisation (cost minimisation),
- external – the system facilitates contacts with customers, which is translated into the number of orders (maximising revenue).

The problem of evaluating information systems, or their relevant communication and distribution channels, revolves around assessing their usefulness from both the customer and bank perspectives, as well as their effectiveness in terms of applications (related to return on investment) (Boudreau et al., 2001; Myers et al., 1997). Researchers sought to develop universal metrics based on economic calculations (Melone, 1990) as well as individual metrics derived from measures such as labour intensity (Czarnacka-Chrobot, 2009). However, a universal measure has not been found, and individual assessment would have required the creation of as many measures as there are banks, which also seemed unreasonable. Therefore, it is now considered necessary to adapt the method of solving this problem to the decision-making situation (Wątróbski, 2016).

The evaluation of banking websites and applications was initially treated in the same way as the evaluation of e-commerce websites (Selz, Schubert, 1997; Whiteley, 2000; Evans, King, 1999). These were scoring methods and scoring methods with preferences, where a set of evaluation criteria is first defined and then assigned a specific rating scale. The evaluation criteria focus primarily on functional and technical factors. Their evaluation

by users is subjective, as the set of criteria always contains certain attributes preferred to varying degrees by individual users (e.g., readability of text or colour scheme). It is also possible to use a set of indicators tailored to the industry (Web Assessment Index method), where the desired results are obtained on the basis of speed, screen navigation, accessibility and content analysis. (Miranda et al., 2006). To achieve a larger and more reliable survey sample, researchers often employ simple assessment methods that can be easily understood by the average user. Instead of relying on complex indicators that are challenging to interpret, these methods focus on collecting data using simple criteria. (Dinitz et al., 2005; Guru et al., 2003; Saraswat, Katta, 2008; Mateos et al., 2001; Chiemeké et al., 2006; Miranda et al., 2006; Hadhemi, 2005; Migdadi, 2008).

In such methods, the criteria are mostly limited to: functionality (ease of navigation, search functionality, readability); usability (catalogue of services, site map); visualisation (colours, background, graphics, fonts, etc.); reliability and accessibility; and quality and care with regard to design and performance.

From the point of view of users, multi-criteria methods can be divided as follows:

- simple methods, which are unambiguous and most commonly used in research, especially mass surveys. These methods are designed to be easy to apply in practice, accepted readily by users, and transparent in their interpretation. They can be developed based on a preference scale estimated at random or by the user, and they strongly depend on the attributes adopted for evaluation,
- relative, pairwise comparisons methods, whose basis are: AHP/ANP, Fuzzy AHP (T. L. Saaty, 1990), Fuzzy AHP (Liu et al., 2020) and Fuzzy ANP (Senturk et al., 2016), which allow to assess the importance of a given attribute in an absolute way and in comparison with others. It is difficult to apply, especially in a data collection procedure, due to the need to fill in many tables with just a few evaluation criteria. Although it is susceptible to rank reversal, this method remains highly popular and frequently utilized despite its drawbacks. Formally, this method has been occasionally criticized for its ambiguity, as it can lead to comparisons between characteristics that differ significantly. This was partly offset by the assumptions of the ANP method, making it even more difficult to use on a massive scale for surveys,
- parametric methods, in which respondents should assign values to certain additional parameters. Practitioners generally avoid using such methods due to their lack of specificity in defining their actual significance. Such methods include e.g. PROMETHEE II, the main issue with the use of such a method is - as in the AHP method - the necessity of preliminary education of respondents (taking place before the evaluation process) (Piwowarski, Ziemia, 2009),
- multi-stage methods, in the first stage, criteria and rating scales are defined (and data are collected, without scoring analysis, and in the second stage, various multi-criteria methods are applied. The study (Wątróbski, Jankowski, 2015) listed nearly 300 similar methods, based on various theoretical assumptions, considering or excluding the user's assumed preferences, distances from assumed optimum levels, etc. While the first stage of this method is typically straightforward and easily comprehensible for users, the second stage can present challenges. Users may encounter difficulties in accurately selecting the appropriate evaluation option and making decisions based on their interpretation,
- hybrid methods, e.g., those in which a combination of methods, their parallel use, or possibly the optimisation of previous simulation variants is used to eliminate

possible shortcomings of a single method or to bring them closer to the interpretative standards of the results.

From the user's point of view, the choice of an appropriate solution to a research problem based on one or more of the above-mentioned methods depends mainly on:

- the prior relevance of the selection of attributes, pertinent to the issue or industry under consideration, even if they appear to conflict with one another,
- the ease and intuitiveness of applying the evaluation scale and/or the scale of proposed preferences (when some criteria are more important to the user than others) during the input data collection,
- interpretation of the results, i.e. the ease and comprehensiveness of evaluating the data and making informed decisions based on them.

However, users, especially from small and medium-sized companies, are often less receptive to computationally complicated methodologies that involve complex calculation procedures and parameters that are challenging to interpret, which forces them to interpret the results themselves. In practice, users do not always request access to or details concerning the method of calculation, typically only seeking the final results. They are often not only interested in the results but also in having the opportunity to express their perspectives on how the results were obtained. Decision-makers of large companies trusting the mechanisms of business analytics are less interested in the method of obtaining the results, more in their interpretation and the resulting recommendations. Managers from small and medium-sized companies (SMES) prefer simple methods, with a relatively simple and intuitive process of obtaining results, which they then have to present to a less sophisticated audience.

In practical terms, striking a balance between these two tendencies would be highly beneficial. This can involve adopting a relatively simple and user-friendly approach to collecting data on the evaluation of banking services and applications. Simultaneously, it is essential to employ a data processing method that generates results that support decision-making processes. Users frequently opt for either the simplest method available, driven by the need to rapidly gather a research sample, or the method they are most familiar with. They may choose a method for which they have software that applies the algorithm for obtaining results. Also, they may already know how to present the decisions made on the basis of the calculations in a convincing manner, and select a method based on this criterion. Thus, it is a question of finding a method that balances, from the user's point of view, the effort required to obtain a result and, at the same time, a result that satisfies the user.

To address this dilemma, a potential solution emerged in the form of developing a new proprietary method for evaluating websites, i.e. the Conversion method (Chmielarz, Zborowski, 2013). This approach, used by many authors, has resulted in dozens of competing methods in recent years, which have produced different results for solving the same problem, described by the same set of data.

Another method is to compare the results of selected methods for evaluating websites with each other. The conversion method the authors developed, based on minimising the distance from the averages, seemed, like the AHP method, to eliminate the subjectivity of the respondents' approach in the research sample. The results of such a comparison for the evaluation of banking websites and applications in Poland, at the end of 2022, are presented in this article.

3. METHOD

3.1. Research procedure

The authors' extensive research into websites and banking applications over the years [e.g. (Chmielarz, Zborowski, 2015; 2019; 2020a; 2021)] has led to adopting the following research procedure:

- a bibliographic analysis of recent developments in the field of website analysis and evaluation, with particular emphasis on banking websites and applications,
- construction of a pilot version of the questionnaire to verify the correctness and comprehensibility of the questions,
- development and refinement of the prototype questionnaire on the basis of the above evaluation, preparing the final version of the questionnaire and adopting an unambiguous scale for the evaluation of attributes during data collection,
- random selection of groups of respondents and inviting them to complete the questionnaire using the CAWI (Computer-Assisted Web Interview) method,
- collection of completed questionnaires, data acquisition and preliminary verification of the correctness of filling in the questionnaires,
- selection of a method to evaluate the banking services in order to compare their quality with the author's conversion method,
- comparative analysis and discussion of the results of the obtained calculations and their statistics,
- drawing conclusions and making recommendations for further quality assessment of bank websites and banking applications.

3.2. Presentation of the applied methods

3.2.1. Scoring scale

The first assessment was based on a simple scoring method. Its principles are simple and do not require any specialist knowledge from the respondents. It can be simplified to include the following stages:

1. Each attribute adopted can score, at most, one point on a standardised Likert scale. A five-point, simplified, standardised Likert scale (Likert, 1932) was adopted to assess the individual criteria in the banks most frequently used by customers:
 - a. 1.00 – fully meets the criterion,
 - b. 0.75 – almost fully meets the criterion,
 - c. 0.50 – moderately fulfils the criterion,
 - d. 0.25 – minimally meets the criterion,
 - e. 0.00 – does not meet the criterion.
2. Ratings from all respondents were aggregated and an average was calculated.
3. The averages were then totalled for the two cross-sections: banks and individual attributes, and their percentages of the total were counted, which proved necessary for comparison with the results of the Conversion method.
4. The next step was to relate the totals obtained to the maximum possible score (16 points in the banks' cross-section; 18 points in the attributes' cross-section).
5. The scores obtained provided an average assessment of the fulfilment of the usability and functionality of the attribute in relation to the best score and allowed a ranking to be presented in both crosssections.

Scoring method is undoubtedly burdened by a high degree of subjectivity in the case of individual respondents' assessments, but during mass surveys this subjectivity is minimised. Subjectivity can be reduced by introducing an individual (subjective) or objective (entropy-determined) preference scale.

Thus, the results obtained are not inferior (Chmielarz, Zborowski, 2018) to those received in other, more formalised and complicated methods. This method also has the advantage that there is no need to estimate additional indicators, which may be either incomprehensible or difficult to estimate for the respondents. As a result, minimal effort is dedicated to preparing participants to complete the survey, and the results cannot be directly affected. Consequently, there is also a higher return than with other methods, especially AHP/ANP, where dozens of tables have to be filled in for the same number of evaluation criteria. Their subsequent interpretation is also easy and comprehensible, both for analysts and users, and the results are easily presented graphically.

In order to reduce the presumed subjectivity of the evaluation of the banking services, the authors created the especially designed Conversion method (see below), which made it possible to relate the ratings provided by the respondents to the calculated average across the individual banks and across the individual criteria. Furthermore, the conversion method is based on the same source data, so that the respondent does not need to be familiar with the algorithm for calculating the results.

3.2.2. The Conversion Method

Below some assumptions for the Conversion method (Chmielarz & Zborowski, 2013) were presented: after constructing the experts' table of evaluations of average particular criteria for each website, the researchers need to perform the conversion with the established preference vector of the superior level criteria (Beaudrie et al., 2020), (Loach et al., 2016). Next, the authors perform the transformation of the combined scoring table into the preference vector (first converter):

The next steps are:

- constructing a matrix of distances from the maximum value for each criterion in every website:
 - establishing the maximum value

$$P_{i,max} = \text{Max}\{f_i(a_j), \dots, f_n(a_m)\} \text{ for } i = 1, \dots, n \text{ and } j = 1, \dots, m \quad (1)$$

- establishing the matrix of the distances from the maximum value

$$\delta(f_i(a_j)) = P_{i,max} - f_i(a_j) \text{ for } i = 1, \dots, n \text{ and } j = 1, \dots, m \quad (2)$$

- calculating the average distance from the maximum value for each criterion

$$\overline{F}_{i,j} = \frac{\sum_{j=1}^m \delta(f_i(a_j))}{m} \quad (3)$$

- as a result of the above operation, constructing a matrix of differences in the distance from the maximum value and the average distance according to criteria,
- for each bank website: constructing conversion matrices – modules of relative distances of particular criteria to remaining criteria (the distance from the same criterion is 0), the obtained distances below the diagonal are the converse of the values over the diagonal:

- averaging criteria conversion matrices $\bar{n}m$ creating one matrix of average modules of values for all criteria

$$\bar{A}_{i,j} = \frac{\sum_{i=1, j=1}^{n,m} (\alpha_{i,j} - \alpha_{i+2,j})}{n} \quad (4)$$

- transforming the conversion matrix of criteria into a superior preference matrix (calculating squared matrix, adding up rows, standardization of the obtained preference vector; repeated squaring, adding up rows, standardization of preference vector – repeating this iteration until there are minimal differences in subsequent preference vectors).

As a result of the above operations, we establish a criteria conversion matrix $Ta_{m \times 1}$:

- Next, the authors performed a transformation of the scores presented by experts on the level of a matrix specifying expert websites' evaluations for particular criteria (second converter) (Beaudrie et al., 2020). The results have been obtained in an analogical way:

- constructing a matrix of distances from the maximum value for each criterion and each website:
 - establishing the maximum value

$$P_{i,max} = \text{Max}\{f_i(a_j), \dots, f_n(a_m)\} \text{ for } i = 1, \dots, n \text{ and } j = 1, \dots, m \quad (5)$$

- establishing the matrix of distances from the maximum value

$$\delta(f_i(a_j)) = P_{i,max} - f_i(a_j) \text{ for } i = 1, \dots, n \text{ and } j = 1, \dots, m; \quad (6)$$

- calculating the average distance from the maximum value for each website

$$\bar{F}_i = \frac{\sum_{j=1}^m \delta(f_i(a_j))}{m} \quad (7)$$

- constructing a matrix of the differences of deviations from the maximum value and the average distance of the features from the maximum,
- for each criterion: constructing a matrix of transformations (conversions) of the differences of the average distance from the maximum value between the websites, analogically as presented above (the distance for a particular feature in the same website from the same website is 0), values below the diagonal are the converse of the values over the diagonal,
- constructing a module matrix of transformations of the differences of the average distance from the maximum value between the websites, for each criterion

$$\bar{A}_{i,j} = \frac{\sum_{i=1, j=1}^{n,m} (\alpha_{i,j} - \alpha_{i+2,j})}{n} \quad (8)$$

- for each module matrix of transformation of the differences of the average distance from the maximum value between the websites, squaring it, adding up rows, standardization of the obtained ranking vector and repeating this operation until the obtained differences between two ranking vectors for each criterion will be minimal.

As a result of the above-presented operations we obtain a conversion matrix of websites' evaluations: $Tf_{m \times 1}$:

- using the obtained vectors to construct a combined ranking matrix – returning to the matrix where in its side-heading there are criteria, in the heading names of bank websites by appropriate transfer of the obtained preference vectors for each criterion,
- multiplying the matrix obtained in such a way by the previously calculated preference vector

$$T' = T f \otimes T a \quad (9)$$

- results and conclusions (note: the lowest distances, in this case, are the most favourable, comparability adjustments to other methods can be obtained by subtracting these values from 1 and their repeated standardization).

The basis for the creation of the presented method was the assumption that it should be easy to apply. The objective has been reached, which is visible in the number of advantages presented below. The only disadvantage of the method is the fact that the transformation of the results of the survey is connected with carrying out many complex operations. The advantages of this method are:

- in the case of considering a large number of evaluation criteria or alternatives, there is no significant increase in the number of questions in the survey,
- the ease of application (similar to the realization of a scoring method) which results from the fact that in the survey form there are questions concerning the subjective evaluation of the element,
- there are no measures, as in the case of e.g., ELECTRE method – veto threshold, which may not be fully understandable for the respondent (Kizielewicz et al., 2020),
- the possibility of the application of the method with the participation of people who are not experts in a particular field,
- the result of the calculations which takes the form of the importance of the evaluations of the examined objects.

3.3. Sample characteristics

The website rankings used in this study were based on data collected in autumn 2022. A total of 738 people were surveyed, of which 356 people completed the survey questionnaire fully and correctly, resulting in a survey return rate of over 48%.

The first version of the survey was validated with the participation of a pilot sample of 50 people, conducted in an academic setting. Attributes were consulted with people in academia working on e-banking issues before being included in the survey.

As there were suggestions in relation to earlier studies (Chmielarz, Zborowski, 2018) questioning the feasibility and desirability of assessing financial and technical attributes at the same time, a survey was carried out to examine this issue.

It addressed the following questions:

- substitutability or equivalence of assessing technical and financial parameters,
- selection based mainly on financial attributes,
- competitiveness of technical and financial attributes,
- the decision to reject a bank whose attributes involved poor technical and good financial conditions.

In response to the first question, more than 60% of respondents expressed that the features such as aesthetically pleasing website design with attractive colours, easy readability, user-friendly navigation, and sufficient functionality *definitely cannot* or *rather cannot* be rated equivalently to the lower cost of the most important products or services in a banking website. This demonstrates a negative attitude towards evaluating banking websites by technical attributes alone. More than 16% had no opinion on the subject. The approach to financial services necessitates that providers of e-banking services incorporate financial considerations into their strategy for 'attracting' users.

This is further supported by the response to the question regarding the potential selection of a banking service with better price parameters, as 69% of the respondents answered with *rather yes* and *definitely yes*.

However, the question concerning the competitiveness of very good technical and financial conditions did not give such a unambiguous answer. Nearly 42% of respondents answered *rather yes*, 35% *rather no*, the *yes* and *no* answers were spread more or less equally. Respondents thus judged that there is a need to assess technical and financial attributes simultaneously.

The final question addressed the decision to reject a bank that possesses solely good financial attributes but its design is not appealing and performance is poor. The responses *rather yes* and *definitely yes* were selected by 56% of respondents, and *rather no* and *definitely no* by nearly 30%. This confirms the previous observation that financial factors, according to respondents, are not sufficient for evaluating banking websites.

In addition, the criteria finally established – the attributes of the banking services – were examined in terms of their comprehensibility and importance for the average website user. The list in the pilot sample included 30 items. After verification, corrections and removal of the least important criteria, 18 attributes (criteria) divided into three groups were included for the evaluation of each website. The sets included economic, technological and anti-crisis criteria. A detailed list of attributes is provided in Table 1.

To participate in the evaluation, respondents were required to assess the websites of a familiar electronic bank in comparison to the site of another banking service. This condition aimed to gather responses from experienced individuals who have dealt with various e-banking sites. Thus, a total of 712 complete evaluations of banking sites were obtained.

In addition to the relevance assessment, respondents stated their preferences in relation to the contribution of individual attributes to the quality rating of the banking service. In relation to the individual attributes, it turned out that they did not deviate particularly from the average of 5.55% and, when analysed in groups, the differences were also minimal (Table 1).

The *Significance Weight* appearing in Table 1 indicates how important the individual criteria are to the respondents in the evaluation procedure of the e-banking services. The higher the value of the weight, the more important the listed criteria are for study participants. On the other hand, the *Preference Weight* means that there is a large difference in ratings between the evaluated services. The greater the perception of a difference in ratings, the higher the weight value is. Table 1 shows the average of the values of all responses.

Respondents rated the sixteen most frequently used banking websites (A1, A2, ..., A16) of the following banks: Alior Bank SA, Bank Handlowy w Warszawie SA, Bank Millennium SA, Bank Pocztowy SA, Bank Polska Kasa Opieki (PKO SA), Bank Polskiej Spółdzielczości, BNP Paribas SA, Credit Agricole Bank Polska SA, Getin Noble Bank

(currently: VeloBank), ING - Bank Śląski SA, mBank SA, Nest Bank SA, PKO Bank Polski SA (PKO BP: Inteligo i IKE), Santander Bank Polska SA, Santander Consumer Bank SA and Toyota Bank Polska SA. All banking services with less than five ratings are not included in this list - 16 banks' ratings were rejected.

Table 1. Averaged relevance and preference indicators for individual attributes

| No. | Attributes | Significance weights | Preference weights |
|----------------------------|--|----------------------|--------------------|
| Economical factors | | | |
| C1 | Monthly fee for card PLN/month | 80.49 | 41.58 |
| C2 | Fee for a transfer to the parent bank | 77.22 | 41.24 |
| C3 | Fee for transfer to another bank | 81.22 | 41.44 |
| C4 | Fee for issuing a debit card | 58.57 | 38.43 |
| C5 | Interest rate on savings accounts | 68.99 | 40.06 |
| C6 | Interest rate on loans of PLN 10,000 | 58.31 | 38.45 |
| C7 | Interest rate on deposits of PLN 10,000 | 62.65 | 38.97 |
| C8 | Annual nominal interest rates on personal accounts | 63.42 | 39.14 |
| C9 | Direct debit | 51.57 | 38.52 |
| C10 | Account maintenance PLN/month | 84.38 | 41.02 |
| Technical factors | | | |
| C11 | Additional services | 53.79 | 41.75 |
| C12 | Account access channels | 75.63 | 42.94 |
| C13 | Security | 85.81 | 42.10 |
| C14 | Visualisation | 58.00 | 44.05 |
| C15 | Navigation | 65.73 | 42.60 |
| C16 | Scope of functionality | 70.71 | 41.89 |
| C17 | Readability and ease of use | 76.80 | 44.48 |
| Anti-crisis factors | | | |
| C18 | Anti-crisis measures | 61.15 | 41.28 |

Source: own work.

The research sample was selected in a diverse manner using a combination of purposive and random sampling methods. The study was conducted within an academic environment, with randomly selected student groups, and a survey link was also shared on the Internet to reach a broader range of participants (*Respondenci Do Ankiety Online*, n.d.). The age range was thus between 19 and 35 years. Admittedly, this choice may have influenced the results of the survey (41 million people in Poland are potential customers of internet and mobile banking, more than 54% among registered customers are active users of internet banking and 44% active users of mobile banking. The surveyed age group represents more than 65% of users). The respondents surveyed included more than 70% women and nearly 30% men. 19% of study participants reported having a bachelor's degree or undergraduate level education. The remaining 80% of the respondents indicated having completed secondary education. The largest group of people came from large cities (more than 200,000 inhabitants) and 19% came from rural areas. A quarter came from small, medium-sized and large cities – up to 200,000 inhabitants. Among those surveyed, there were 52%

students, 31% working based on a contract for specific work, service contract or being self-employed and 17% of respondents were working on the basis of a contract of employment. The most common occupations were office workers (63%), service workers (16%), professionals (8%) and workers employed for simple technical work (7%). Most describe their financial situation as good (61%), very good (22%), average (16%) and sufficient (2%).

The data on the evaluation of banking services are generally relatively homogeneous and consistent. Once these were obtained, a reliability test in the form of Cronbach's alpha coefficient was applied. For all criteria (attributes), the Cronbach's alpha coefficient indicates internal consistency and the reliability of the sample was greater than 0.80. The internal consistency measure of the 16 dependent variables, based on Cronbach's alpha coefficient, was 0.85 (0.90 for Cronbach's alpha calculated from standardised items), for the 18 items in total.

4. ANALYSIS AND DISCUSSIONS OF THE RESULTS

The first part of the survey was conducted using a scoring method (without preferences), with equivalent attribute weights. Based on the data collected from the questionnaires distributed via the Internet, a summary table of averages from the respondents' ratings was created. This table was summarised by rows (individual attributes) and columns (individual banks). The totals obtained were then related to the maximum possible values (using a standardised Likert scale). In this way, the shares of the ratings of the individual banks and separately - of the attributes - in the highest possible rating of the banking services and/or applications were obtained. The results are presented in the following charts (Figure 1 and Figure 2).

The presented ranking shows that the Velo Bank service (the state-acquired Getin Noble Bank) enjoyed the highest reputation, with a score of more than 92% in terms of meeting the clients' evaluation conditions. With a slightly lower score (91%), the PKO Bank website came in second place, followed closely by the BNP Paribas service (90%). The lowest rated bank websites are: Bank Polskiej Spółdzielczości (46%), Bank Pocztowy (46%) and Bank Handlowy w Warszawie (48%). On the whole, however, the average ratings are high, with only 19% of the banking websites scoring below 50% in the maximum usability score. However, the distribution of ratings for individual services was significant, with 46% for the last three services in the ranking, 14% among the first eight highest rated services, 39% among those rated above 50%, and 2% among the three lowest rated services. As many as eleven banking websites out of the sixteen analysed were ranked above the average rating of 76%.

The calculations demonstrate that customers attributed the highest scores to the Getin Noble Bank website. Regrettably, following its acquisition by the state, the bank witnessed numerous account cancellations, which were not related to the usability of the services offered. At that time, the website has also undergone a major overhaul. Its evaluation will probably be included in next year's survey. Therefore, based on the ranking, PKO S.A. emerges as a potential benchmark for both customers and bank website designers, closely followed by BNP Paribas.

The results of the scoring methods of selected banks are shown in Figure 1.

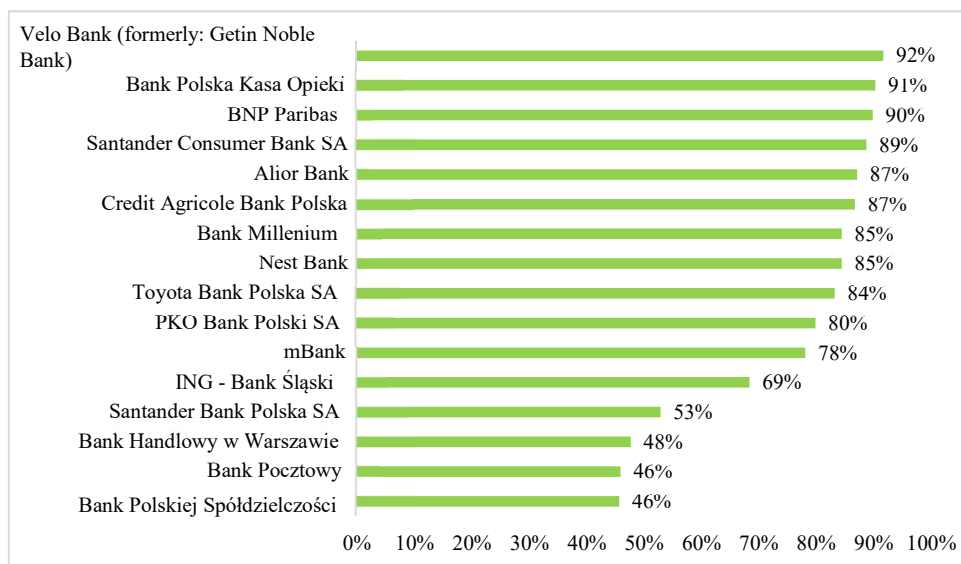


Figure 1. Scores obtained using the scoring method for selected banks

Source: own work.

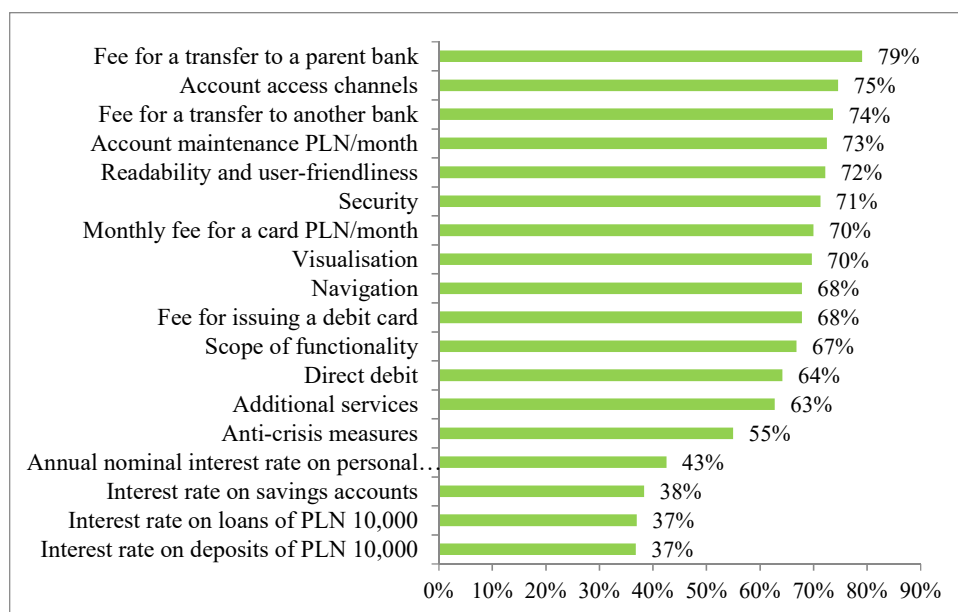


Figure 2. Results obtained with a scoring method according to attributes (evaluation criteria)

Source: own work.

The individual attributes of the banking services were rated slightly less positively on average (average attribute rating - 62%), although, as before, as many as 68% of the

attributes had a rating higher than average. The best scores (for financial data, the lower the attribute value, the higher the score) were for fees for transfers to the parent bank (79%) and the number and quality of account access channels (75%). Low fees for transferring funds to another bank and for account maintenance come next. It is worth noting that technical attributes: readability and ease of use and security features appear in the ranking from the fifth position onwards. Still, acceptance is above 70% of the possible highest rating. The worst rated financial factors were low interest rates on deposits and loans (37% each) and low interest rates on savings accounts (38%). The rating of the attributes of banking services is thus also linked to high inflation and indirectly to the whole policy of the state and the banking sphere. The spread of results here is slightly greater than in the previous statement (42%) overall, 24% in the above average group, 18% below average. The results are shown in Figure 2.

To compare the results of the scoring method and the conversion method, a form of standardization was employed. This involved transforming the results obtained from the first method to match the format used in the second method. This was done by relating the results for individual banks and attributes to the sum of the averages in each bank and for each criterion.

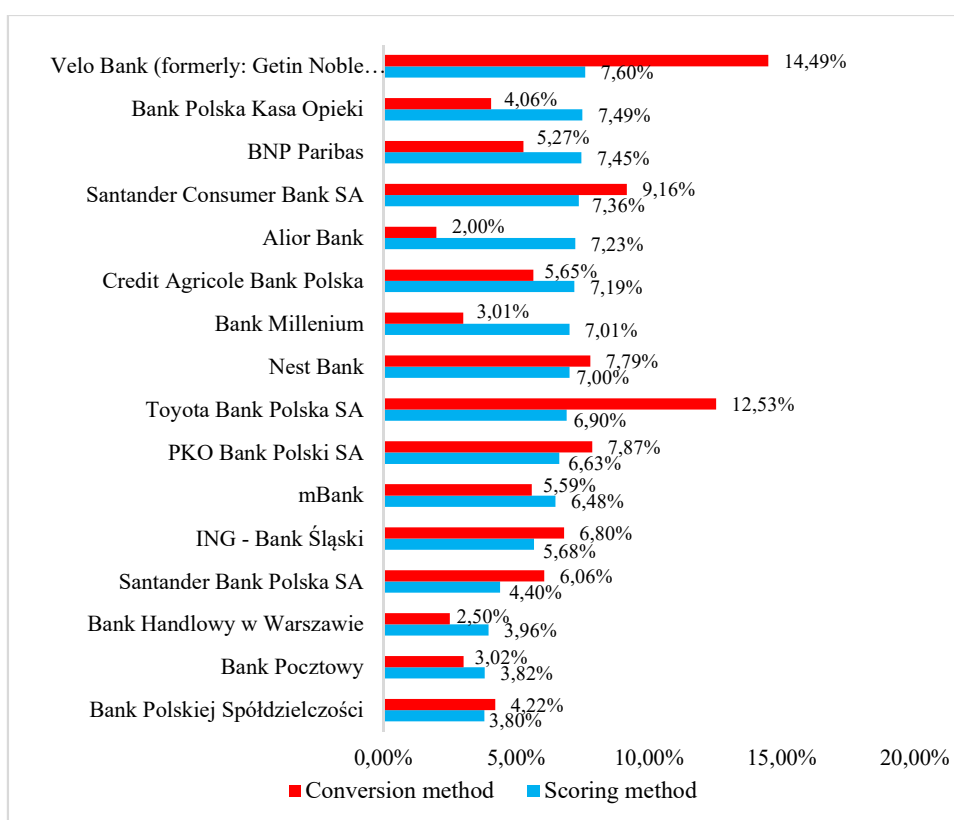


Figure 3. Comparison of results obtained by selected banks using the scoring method and the conversion method

Source: own work.

This allowed the ranking to be compared, on the one hand, according to the banks analysed and, on the other, according to the attributes the respondents evaluated. The reference to the average in the conversion method gave a completely different ranking of the banks compared to the results obtained by the scoring method. In Figure 3, it can be seen that while the results in the first position coincide, the online Toyota Bank, already in second position in the conversion method, was in third position in the scoring method. On the other hand, Santander Consumer Bank which previously came third, in the scoring method found itself in fourth place. Similarly, at the bottom end of the ranking, there are discrepancies between the two methods, although the list of the worst-rated bank websites is the same.

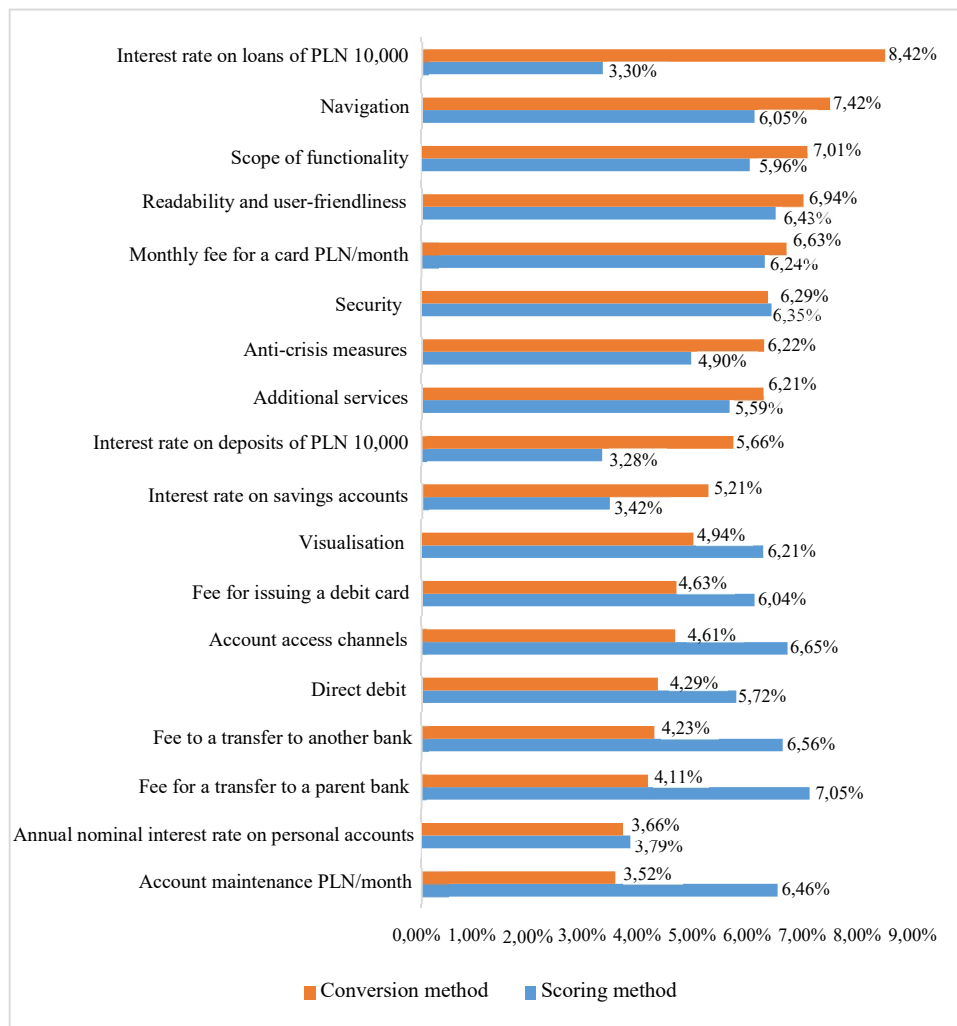


Figure 4. Comparison of the results obtained by attributes of selected banks using the scoring method and the conversion method

Source: own work.

A similar situation occurred in the assessment of attributes. In this case, the differences were even more pronounced. Unfavourable loan rates as significant criteria ranked first in the conversion method but significantly lower in the scoring method, and account management which ranked among the top attributes in the scoring method, ranked last in the conversion method.

A summary of the ranking places in the scoring method and the conversion method for the banks can be found in Table 2.

Table 2. Summary of bank rankings in the scoring method and conversion method

| Bank | Scoring method | Position in the scoring method | Conversion method | Position in the conversion method | Euclidean distance |
|--|----------------|--------------------------------|-------------------|-----------------------------------|--------------------|
| Velo Bank (formerly: Getin Noble Bank) | 7.60% | 1 | 14.49% | 1 | 0 |
| Bank Polska Kasa Opieki | 7.49% | 2 | 4.06% | 12 | 100 |
| BNP Paribas | 7.45% | 3 | 5.27% | 10 | 49 |
| Santander Consumer Bank SA | 7.36% | 4 | 9.16% | 3 | 1 |
| Alior Bank | 7.23% | 5 | 2.00% | 16 | 121 |
| Credit Agricole Bank Polska | 7.19% | 6 | 5.65% | 8 | 4 |
| Bank Millenium | 7.01% | 7 | 3.01% | 14 | 49 |
| Nest Bank | 7.00% | 8 | 7.79% | 5 | 9 |
| Toyota Bank Polska SA | 6.90% | 9 | 12.53% | 2 | 49 |
| PKO Bank Polski SA | 6.63% | 10 | 7.87% | 4 | 36 |
| mBank | 6.48% | 11 | 5.59% | 9 | 4 |
| ING - Bank Śląski | 5.68% | 12 | 6.80% | 6 | 36 |
| Santander Bank Polska SA | 4.40% | 13 | 6.06% | 7 | 36 |
| Bank Handlowy w Warszawie | 3.96% | 14 | 2.50% | 15 | 1 |
| Bank Pocztowy | 3.82% | 15 | 3.02% | 13 | 4 |
| Bank Polskiej Spółdzielczości | 3.80% | 16 | 4.22% | 11 | 25 |

Source: own work.

The largest differences measured by Euclidean distance occurred in both rankings in case of the position of Alior Bank and Bank Polska Kasa Opieki, the smallest in the position of Velo Bank, Santander Consumer Bank and Bank Handlowy w Warszawie. These are mainly due to the evaluation of individual attributes and their relation to the average. Nonetheless, they appear to be, especially in relation to the shares in the assessment of individual banks. Efforts have been made to minimize these differences through research, utilizing penalty function coefficients to address the discrepancies in the averages after rows and columns. This approach follows the principles initially described in the study (Chmielarz, Zborowski, 2020b).

The rating of individual attributes in the analysed banks revealed more than twice as many differences. The variation in opinions regarding attribute evaluation is significantly stronger, resulting in greater disparity in the ranking of financial criteria.

Table 3. Summary of attribute rankings in the scoring method and the conversion method

| Service | Scoring method | Position in the scoring method | Conversion method | Position in the conversion method | Euclidean distance |
|--|----------------|--------------------------------|-------------------|-----------------------------------|--------------------|
| Fee for a transfer to the home bank | 7.05% | 1 | 4.11% | 16 | 225 |
| Account access channels | 6.65% | 2 | 4.61% | 13 | 121 |
| Fee for a transfer to another bank | 6.56% | 3 | 4.23% | 15 | 144 |
| Account maintenance PLN/month | 6.46% | 4 | 3.52% | 18 | 196 |
| Readability and ease of use | 6.43% | 5 | 6.94% | 4 | 1 |
| Security | 6.35% | 6 | 6.29% | 6 | 0 |
| Card monthly fee PLN/month | 6.24% | 7 | 6.63% | 5 | 4 |
| Visualisation | 6.21% | 8 | 4.94% | 11 | 9 |
| Navigation | 6.05% | 9 | 7.42% | 2 | 49 |
| Fee for issuing a debit card | 6.04% | 10 | 4.63% | 12 | 4 |
| Scope of functionality | 5.96% | 11 | 7.01% | 3 | 64 |
| Direct debit | 5.72% | 12 | 4.29% | 14 | 4 |
| Additional services | 5.59% | 13 | 6.21% | 8 | 25 |
| Anti-crisis measures | 4.90% | 14 | 6.22% | 7 | 49 |
| Annual nominal interest rates on personal accounts | 3.79% | 15 | 3.66% | 17 | 4 |
| Interest rates on savings accounts | 3.42% | 16 | 5.21% | 10 | 36 |
| Interest rates on loans of EUR 10 000 | 3.30% | 17 | 8.42% | 1 | 256 |
| Interest rates on loans of EUR 10 000 | 3.28% | 18 | 5.66% | 9 | 81 |

Source: own work.

A comparison of the results obtained with the simple scoring method and the conversion method show that, as opposed to comparing it with other methods (Chmielarz, Zborowski, 2018), there is no convergence in this case. Making decisions based on such divergent results would prove challenging. This is not an isolated occurrence since comparisons (to the extent which was possible) with the results of the AHP method yielded similar discrepancies (Chmielarz, Zborowski, 2014).

5. CONCLUSIONS

The conversion method presented in this article can be used to evaluate websites and web applications. This is prompted by the simple way of collecting data identical to the scoring method and the automated conversion of results, which does not require the user to engage in these processes. The interpretation of the results can present a certain challenge. On this basis, it is possible to establish a ranking of both the banks analysed and the attributes assessing the usability of banking services.

The calculations made clearly indicate the results, but their comparison with the results of the simple scoring method shows high differences in the rankings, which in the article are assessed on the basis of Euclidean distance. The results can be considered relevant as

they help minimize the subjectivity of evaluations and provide a different perspective on the assessment of modern information technologies, similar to the AHP.

The article was subject to certain limitations. Firstly, the research sample was limited in scope and would need to be extended in order to generalise the results obtained. Secondly, the conversion method should also be compared with other multi-criteria evaluation methods.

The abovesaid limitations point to the directions for future research on the applicability of the Conversion method for the evaluation of websites. Further research should consist of comparing the results of this method with a selected group of other multi-criteria methods (e.g. Promethee, Electra, TOPSIS, etc.).

The issue examined in the study should be considered mainly from the point of view of future users. The focus ought to be on minimizing their difficulties in data collection for evaluation purposes and ensuring the simplicity and unambiguous interpretation of the obtained evaluations.

REFERENCES

- Beaudrie, C., Corbett, J.C., Lewandowski, T.A., Malloy, T., Zhou, X. (2020). *Evaluating the Application of Decision Analysis Methods in Simulated Alternatives Assessment Case Studies: Potential Benefits and Challenges of Using MCDA*. "Integrated Environmental Assessment and Management", 17(1). DOI: 10.1002/ieam.4316.
- Boudreau, M.-C., Gefen, D., Straub, D.W. (2001). *Validation in Information Systems Research: A State-of-the-Art Assessment*. "MIS Quarterly", 25(1), Article 1. JSTOR. DOI: 10.2307/3250956.
- Brans, J.P., Vincke, Ph., Mareschal, B. (1986). *How to select and how to rank projects: The Promethee method*. "European Journal of Operational Research", 24(2). DOI: 10.1016/03772217(86)90044-5.
- Brans, J.-P., Mareschal, B. (2005). *Promethee Methods* [In:] Figueira, J., Greco, S., Ehrogott, M., eds., *Multiple Criteria Decision Analysis: State of the Art Surveys* (p. 163–186). Springer. DOI: 10.1007/0387-23081-5_5.
- Chiemeke, S.C., Ewwiekpaefe, A.E., Chete, F.O. (2006). *The Adoption of Internet Banking in Nigeria: An Empirical Investigation*. "Journal of Internet Banking and Commerce", 11(3), Article 3.
- Chmielarz, W., Zborowski, M. (2013). *Conversion Method in Comparative Analysis of e-Banking Services in Poland* [In:] Kobyliński, A., Sobczak, A., eds., *Perspectives in Business Informatics Research* (p. 227–240). Springer. DOI: 10.1007/978-3-642-40823-6_18.
- (2014). *Wykorzystanie metody AHP/ANP w konfrontacyjnej metodzie projektowania wzorcowego systemów informatycznych*. „Informatyka Ekonomiczna”, 1(31).
- (2015). *Comparative Analysis of Electronic Banking Websites in Selected Banks in Poland in 2014*. DOI: 10.15439/2015F43.
- (2018). *Analysis of e-Banking Websites' Quality with the Application of the TOPSIS Method – A Practical Study*. "Procedia Computer Science", 126, 1964–1976. DOI: 10.1016/j.procs.2018.07.256.
- (2019). *On a comparative analysis of internet banking services by the conversion method and the scoring method*. "Journal of Economics and Management", 38. DOI: 10.22367/jem.2019.38.02.

- (2020a). *A Hybrid Method of Assessing Individual Electronic Banking Services in 2019. The Case of Poland*. "Procedia Computer Science", 176. DOI: 10.1016/j.procs.2020.10.09.
- (2020b). *Towards Sustainability in E-Banking Website Assessment Methods*. "Sustainability", 12(17), Article 17. DOI: 10.3390/su12177000.
- (2021). *Towards VES Function for Creating a Sustainable Method for Evaluating e-Banking Websites Quality*. "Procedia Computer Science", 192. DOI: 10.1016/j.procs.2021.09.292.
- Czarnacka-Chrobot, B. (2009). *Wymiarowanie funkcjonalne przedsięwzięć rozwoju Systemów Oprogramowania Wspomagających Zarządzanie na bazie uogólnionych danych historycznych*. „Studia i Materiały Polskiego Stowarzyszenia Zarządzania Wiedzą”, 23.
- Dinitz, J.H., Dukes, P., Stinson, D.R. (2005). *Sequentially Perfect and Uniform One-Factorizations of the Complete Graph*. "The Electronic Journal of Combinatorics", 1–12. DOI: 10.37236/1898.
- Evans, J.R., King, V.E. (1999). *Business-to-Business Marketing and the World Wide Web: Planning, Managing, and Assessing Web Sites*. "Industrial Marketing Management", 28(4), Article 4.
- Guru, B., Shanmugam, B., Alam, N., Perera, J. (2003). *An Evaluation of Internet Banking Sites in Islamic Countries*. "Journal of Internet Banking and Commerce", 8(2), Article 2.
- Hadhémi, A. (2005). *An evaluation of internet banking and online brokerage in Tunisia*. "Proceedings of the 1st International Conference on E-Business and E-Learning (EBEL)".
- Karagiannidis, A., Moussiopoulos, N. (1997). *Application of ELECTRE III for the integrated management of municipal solid wastes in the Greater Athens Area*. "European Journal of Operational Research", 97(3). DOI: 10.1016/S0377-2217(96)00252-4.
- Keeney, R.I., Raiffa, H. (1976). *Decision Analysis with multiple conflicting objectives*. Wiley&Sons.
- Kizielewicz, B., Wątróbski, J., Sałabun, W. (2020). *Identification of Relevant Criteria Set in the MCDA Process-Wind Farm Location Case Study*. "Energies", 13. DOI: 10.3390/en13246548.
- Krzanowski, W.J. (2000). *Principles of Multivariate Analysis: A User's Perspective*. Oxford University Press.
- Likert, R. (1932). *A Technique for the Measurement of Attitudes* (No. 140). New York University.
- Liu, Y., Eckert, C.M., Earl, C. (2020). *A review of fuzzy AHP methods for decision-making with subjective judgements*. "Expert Systems with Applications", 161. DOI: 10.1016/j.eswa.2020.113738.
- Loach, K., Rowley, J., Griffiths, J. (2016). *Cultural sustainability as a strategy for the survival of museums and libraries*. "International Journal of Cultural Policy", 23. DOI: 10.1080/10286632.2016.1184657.
- Mateos, M. B., Chamorro, A., Gonzalez, F.J.M., Gonzalez Lopez, O.R. (2001). *A New Web Assessment Index: Spanish Universities Analysis*. "Internet Research: Electronic Application and Policy", 11(3), Article 3. DOI: 10.1108/10662240110396469.
- Melone, N.P. (1990). *A Theoretical Assessment of the User-Satisfaction Construct in Information Systems Research*. "Management Science", 36(1), Article 1. DOI: 10.1287/mnsc.36.1.76.

- Migdadi, Y.K. (2008). *Quantitative Evaluation of the Internet Banking Service Encounter's Quality: Comparative Study between Jordan and the UK Retail Banks*. "Journal of Internet Banking and Commerce", 13(2), Article 2.
- Miranda, F.J., Cortés, R., Barriuso, C. (2006). *Quantitative evaluation of e-banking web sites: An empirical study of Spanish banks*. "The Electronic Journal of Information System Evaluation", 9(2), Article 2.
- Myers, B., Kappelman, L., Prybutok, V.R. (1997). *A Comprehensive Model for Assessing the Quality and Productivity of the Information Systems Function*. "Information Resources Management Journal", 10. DOI: 10.4018/irmj.1997010101.
- Nijkamp, P., Delft, A. van. (1977). *Multi-Criteria Analysis and Regional Decision-Making*. Springer US. Access on the internet: <https://www.springer.com/gp/book/9789020706895>.
- Piwowarski, M., Ziemia, P. (2009). *Metoda PROMETHEE II w wielokryterialnej ocenie produktów*. „Polskie Stowarzyszenie Zarządzania Wiedzą”, 18.
- Respondenci do ankiet online (n.d.). Retrieved 10 May 2023. Access on the internet: <https://ankieto.pl/program-doankiet/respondenci>.
- Roy, B. (1996). *Multicriteria Methodology for Decision Aiding*. Springer US. DOI: 10.1007/978-1-4757-2500-1.
- Saaty, T.L. (1990). How to Make a decision: The Analytic Hierarchy Process. "European Journal of Operational Research", 48(1), Article 1. DOI: 10.1016/0377-2217(90)90057-I.
- (2008a). *The analytic hierarchy and analytic network measurement processes: Applications to decisions under Risk*. "European Journal of Pure and Applied Mathematics", 1(1), Article 1. DOI: 10.29020/nybg.ejpam.v1i1.6.
- (2008b). *Decision making with the Analytic Hierarchy Process*. "Int. J. Services Sciences", 1. DOI: 10.1504/IJSSCI.2008.017590.
- Saraswat, A., Katta, A. (2008). *Quantitative Evaluation of E-Banking Websites: A Study of Indian Banks*. "Icfai University Journal of Information Technology", 3(4), Article 4.
- Selz, D., Schubert, P. (1997). *Web Assessment – A Model for the Evaluation and the Assessment of Successful Electronic Commerce Applications*. "Electronic Markets", 7. DOI: 10.1109/HICSS.1998.655278.
- Senturk, S., Binici, Y., Erginel, N. (2016). *The theoretical structure of Fuzzy Analytic Network Process (FANP) with Interval Type-2 Fuzzy Sets*. "IFAC-PapersOnLine", 49(12). DOI: 10.1016/j.ifacol.2016.07.706.
- Wątróbski, J. (2016). An Ontology Supporting Multiple-Criteria Decision Analysis Method Selection [In:] *Intelligent Decision Technologies 2016: Proceedings of the 8th KES International Conference on Intelligent Decision Technologies (KES-IDT 2016)* (p. 89–99). DOI: 10.1007/978-3-319-39630-9_8.
- Wątróbski, J., Jankowski, J. (2015). Guideline for MCDA Method Selection in Production Management Area [In:] Różewski, P., Novikov, D., Bakhtadze, N., Zaikin, O., eds., *New Frontiers in Information and Production Systems Modelling and Analysis: Incentive Mechanisms, Competence Management, Knowledge-based Production* (Vol. 98, p. 119–138). Springer. DOI: 10.1007/978-3-319-23338-3_6.
- Wątróbski, J., Jankowski, J., Ziemia, P., Karczmarczyk, A., Ziolo, M. (2019). Generalised framework for multi-criteria method selection. "Omega", 86. DOI: 10.1016/j.omega.2018.07.004.
- Whiteley, D. (2000). *E-commerce: Strategy, technologies and applications*. McGraw-Hill.

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