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Manuscript format. A brief abstract of approximately 100 to 150 words in the same language and a list of up to six key words should precede the text body of the manuscript. Manuscripts should be prepared as doc. file, Word version 6.0 or higher. Manuscript should be prepared using a Word template (downloaded from web address <http://casopisi.junis.ni.ac.rs/index.php/FUEconOrg/about/submissions#authorGuidelines>).

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Style requirements. Letters, figures and symbols should be clearly denoted.

Equations should be typewritten and, with the number, placed in parentheses at the right margin. References to equations should be in the form "Eq. (2)" or simply (2). For equations that cannot be entered in a single line, use the Equation Editor in MS Word. In equations and in the text, *italicize* symbols that are used to represent variables or parameters, including subscripts and superscripts. Only use characters and symbols that are available in the Equation Editor, in the *Symbol font* or in *Times New Roman*.

All illustrations (figures, photographs, line drawings, graphs) should be numbered in series and all legends should be included at the bottom of each illustration. All figures, photographs, line drawings and graphs, should be prepared in electronic form and converted in TIFF or JPG (max quality) file types, in 300 dpi resolution, for superior reproduction. Figures, line drawings and graphs prepared using elements of MS Drawing or MS Graph must be converted in form of pictures and unchangeable. All illustrations should be planned in advance so as to allow reduction to 12.75 cm in column width. Please review all illustrations to ensure that they are readable.

All **tables** should be numbered with consecutive Arabic numbers. They should have descriptive captions at the top of each table and should be mentioned in the text.

References should follow the **APA Style** convention, in alphabetical order at the end of the manuscript. The list of references should be formatted so that the second row in each entry is indented (Paragraph Indentation, Special - choose Hanging, by 0.5cm). Wherever possible, the DOI number should be provided, too, in addition to other reference data.

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DEVELOPMENT OF CORPORATE LEADERSHIP COMPETENCIES IN THE CONTEXT OF MODERN LEARNING

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Abstract. *The relevance of the topic is determined by the rapid development of global events, the continuing upcoming challenges that affect the working environment and the development of the labour market and the need for managers to cope with new and unprecedented challenges. The learning context is also developing, introducing new opportunities, and learning methods that complement each other.*

The level of competence was assessed by the respondents for eight of their competences, selected according to the Great Eight Competence Model, which is one of the current perspectives on how to capture the competences required of a manager.

Aim of the study: To explore the learning methods chosen by managers in developing competencies, and to make suggestions for managers and organizations to design a competency development process that is relevant to the current learning context. A total of 114 managers participated in the study.

Main conclusions: managers highly evaluate their level of development of their competences, but they see a place for growth and further development for all competencies. Managers more often use passive learning methods, which they evaluate lower in terms of effectiveness than active methods that are based on their own experience. There are no significant differences between different level managers and the duration of their experience. There is a difference between the capacity to develop competencies in organizations. The lowest capacity to develop competencies is in the public sector organizations.

Key words: *Leadership, Competences, Modern Learning, Unawareness Learning*

JEL Classification: I25, I21, D83

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1. INTRODUCTION

Curriculums of every course and training need to be always up to date; for this reason, scholars have discussed new leadership competencies needed to adapt to the 21st century, which has been characterized by significant changes such as societal shifts, globalization, and technological developments (Fotso, 2022). The rapid development of digital technologies, the implementation of Europe's "green course," and major challenges such as the COVID-19 pandemic and the Russia-Ukraine war are just some of the current changes and challenges most managers are facing in organizations and companies across Europe and Latvia.

As organizations seek solutions to survive in an increasingly complex environment, the ability of employees to find creative solutions and cope with a wide range of problems has become one of the critical drivers of management development. As management practices continue evolving, organizations must develop future managers at all levels (Stoten, 2021), and managers must follow a continuous development path to succeed (Valcour, 2020).

The greatest value of organizations has shifted from profitable balance sheet assets (such as plant, equipment, and raw materials, among others) to intangible assets — including people and intellectual capital. Inspiring, training, and engaging employees has become more necessary than ever for companies to compete successfully in today's marketplace. Nevertheless, investing in people is not a new concept. Instead, knowing where this investment makes a difference and where it does not is the new competitive advantage that companies and organizations can get (Pease et al., 2014).

In today's dynamic and interconnected world, leaders must possess a wide range of competencies to address the challenges and effectively seize the opportunities that arise. The rapid advance of technology, the increasing interdependence of organizations and countries, and the ever-present crisis risk require a new breed of leader who can navigate complexity and uncertainty.

For this reason, this research explores the learning methods managers choose to develop competencies, helping managers and organizations design a competency development process relevant to the current learning context.

2. LITERATURE REVIEW

Competence is a measurable human ability necessary for effective performance, and it can consist of knowledge, a single skill or ability to do something, a personal characteristic, or a combination of several of these components (Smutný et al., 2014). In a personal context, competencies can be specific knowledge or skills of an employee that are demonstrated and practically applied in appropriate situations (Dent et al., 1994). In the context of this paper, competence in the personal context will be considered as the set of knowledge, skills, and behaviors required by modern managers to perform their jobs.

2.1. Competences of managers

One of today's most widely used and recognized competency models is The Great Eight Competency Model, developed by Dave Bartram and Rainer Kurz. It consists of eight competency factors (see Table 1), and the authors relate competencies to how skills and knowledge are used in action and adapted to the context of different work demands.

Table 1 Names and top-level definitions of The Great Eight competencies

| Name of competence | Definition of competence |
|--|--|
| Team management and decision-making | Takes the lead and demonstrates leadership. Initiates action, gives direction, and takes responsibility. |
| Supporting others and working together | Supports others, shows respect, and has positive regards in social situations. Puts people first and works effectively with teams, clients, and the collective. Consistently operates with clear personal values that complement those of the organization. |
| Interacting and presenting | Communicates effectively and builds communication networks. Successfully persuades and influences others. Relies on others confidently and calmly. |
| Analysis and interpretation | Demonstrates clear signs of analytical thinking. Gets to the root of complex problems and issues. Applies knowledge effectively. |
| Generating and conceptualizing new ideas | Works well in situations that require openness to new ideas and experiences. Sees all situations as learning opportunities. Solves problems and challenges with innovation and creativity. Thinks broadly and strategically. Supports and drives change in the organization. |
| Organization and execution | Plans ahead and works in a systematic and organized way. Follows instructions and procedures. Focuses on customer satisfaction and delivers quality service or products to meet standards. |
| Adapting to changing conditions | Adapts and responds well to change. Manages pressure effectively. Copes well with setbacks. |
| Entrepreneurship and action | Focus on results and personal work goals. Works best when work is closely linked to results, and the impact of personal efforts is evident. Demonstrates an understanding of business, commerce, and finance. Seeks opportunities for self-development and career development. |

Source: Bartram, 2005

The model offers the possibility to develop competency profiles for different professional roles, which are already in the learning process, and improve students' understanding of their future roles, competencies, and strengths (Craps et al., 2021). The Great Eight model was developed in 2002, and the authors have conducted several studies to validate it since its development. Furthermore, a review of evidence from 33 validation studies confirmed the model's usefulness (Bartram et al., 2003).

2.2. Adult learning methods

There are different methods that adults use to learn, and some of the methods will be ranked in order of effectiveness. A learning method is a deliberately chosen way of working towards a goal. It includes: the techniques a teacher uses in teaching and the way the audience works in the learning situation.

Edgar Dale's learning pyramid is one of the oldest and most recognized models for classifying learning methods. This pyramid shows that how we learn information depends on our attention and the channel we activate to receive it. Dale distinguishes between passive and active engagement, and his experiments show that multidimensional experiences, active participation, and interaction contribute to longer recall (Pietroni, 2019). In addition, Dale's pyramid shows the percentage of information people perceive through different ways of acquiring and processing information (see Figure 1) (Lieġeniece, 2002, p. 92): 10% of information is perceived and remembered when reading; 20% when listening; 30% when

seen; 40% when hearing and seeing; 60% by discussing information, 80% by discovering and formulating it ourselves.

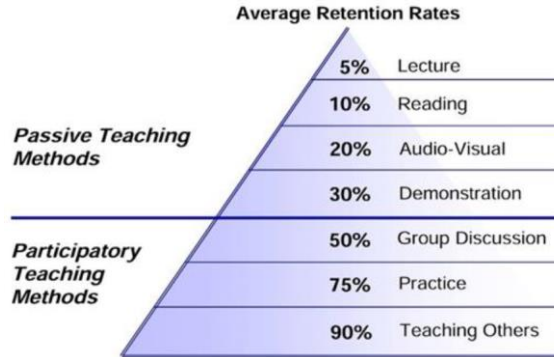


Fig. 1 Edgar Dale’s or the NTL’s Pyramid of Learning
 Source: Dale, 1946

On the other hand, methods are also rated according to the level of involvement of participants: low, medium, and high (see Table 2). Given the context of adult learning and the need to learn from experience, it can be assumed that methods with higher involvement are also likely to provide higher learning effectiveness.

Table 2 Training methods

| Methods | Level of involvement of participants | Methods | Level of involvement of participants |
|-----------------|--------------------------------------|------------------------|--------------------------------------|
| Action maze | High | Incident process | High |
| Assignments | Low | “In Tray” | High |
| Brainstorming | High | Games | Medium / High |
| Briefing groups | Medium | Lectures | Low |
| Buzz groups | Medium | Programmed instruction | High |
| Case studies | High | Role playing | High |
| Clinical method | High | Seminar | Medium |
| Debates | High | Sensitivity training | High |
| Demonstrations | Low / High | Talk | Medium |
| Discussion | Medium | Trips | Medium |

Source: Leigh, 1996

Adult learning is not only a sign of human maturity, but also a way to satisfy the need for stability. Different methods and approaches to guidance, based on the personal content and behavior of the individual, are becoming increasingly common. Similarly, the rapid development of technology makes it necessary to plan and design an increasingly participatory and collaborative learning process, taking into account the possibilities offered by the modern world and creating new learning experiences using modern and up-to-date learning methods.

2.3. Modern learning methods

It is necessary to identify some other methods that can be used to develop the competencies of managers. In recent years, a couple of methods have been used very actively in the Latvian labor market. However, others are still emerging or in an early stage of development among Latvian consumers and are likely to become relevant in the upcoming years. For this reason, various modern learning methods will be selected, and it will be ensured that those methods can be used to diversify the learning process, develop competencies more effectively, and create new experiences for learners.

Mobile learning. Mobile learning is a process that produces content accessible from learners' smartphones and uses smartphones in face-to-face or distance learning processes, for example, by completing a survey on a learning topic in real time (Priscila, 2021). Mobile learning technology allows the combination of different learning models, thus enabling students to be involved in constructing their learning work (Criollo-C et al., 2021).

Mobile applications. One of the ways mobile devices can be used for learning is through the deliberate and thoughtful development of applications. With daily challenges, distractions, and to-dos during the day, learners have limited time to practice. They want training that is under their control—it needs to be instantly accessible and ideally personalized. In addition, the learning process must be deep and relevant to the learner (EI Design, 2022).

Augmented Reality. One type of mobile application that also supports different learning processes is augmented reality. It is a way for learners to understand the concepts of 3D models better. Augmented reality allows an additional layer of visual information to be added to physical reality using a smartphone or tablet (Gejendhiran et al., 2020).

Virtual Reality. Virtual reality use in the field of education has been talked about for more than half a century. At present, studies show that trainers often use virtual reality solutions only in specialized situations where realistic simulations or training purposes are required. A relatively small proportion of virtual reality use cases were found to be based on rigorous pedagogical reasoning (Kavanagh et al., 2017).

Microlearning. Microlearning provides a self-learning environment for the participant (Mali et al., 2021), and it has two main characteristics: short time and simplified content (Reinsone, 2020).

Gamification. One of the first definitions of gamification was recorded in 2011 when a group of authors described it as using game design elements in non-game contexts (Deterding et al., 2011). Recognizing gamification as a learning process creates a better alignment between academic and practical perspectives (Werbach, 2014).

Coaching. Coaching is one of the modern personal development methods, facilitating growth and helping people achieve their goals faster and more effectively. Various coaching methods are becoming increasingly relevant, as they can adapt to each learner's context, and the content is selected considering different individual needs. Coaching tools are used in companies and organizations, individual and group development sessions, and television programs (Snidzane & Golubeva, 2021).

Mentoring. The term mentoring is generally used to explain the relationship between a less experienced person (also called a protégé in the literature) and an experienced person (known as a mentor) (Grinfelde, 2017, p. 31).

Supervision. The Latvian National Encyclopaedia describes the process of supervision as follows: "supervision is a modern practical form of support for professionals, groups of professionals, teams or organizations, in which, after exploring the needs of the client or customer, formulating the purpose of supervision and mutual agreement, the supervision process finds concrete solutions to various problems, provides support and facilitates the learning process." (Mārtinsone & Zakriževska-Belogradova, 2021).

2.4. Authors' breakdown of learning methods for the study

The classification is based on two characteristics specific to each method. Firstly, it defines what determines the content and direction of the learning process - the learner, an expert (trainer) or whether the content is experiential. Secondly, the level of involvement of the learner in the chosen learning method is taken into account. It should be noted immediately that, as in the models discussed in previous chapters, this gradation is not absolute and may vary depending on the situation and context, as different methods may overlap and be adapted to the situation.

The authors classify the chosen methods into three categories (see Table 3):

Group 1 - Self-selected content, low involvement

This group includes passive learning methods in which the learner's main task is to perceive the information and evaluate its possible application in his/her own context and to solve his/her own tasks. These are methods in which the learner selects a piece of content to learn independently.

Group 2 - expert-led content, medium involvement

This group combines methods with different levels of involvement. The level of involvement will always depend on the teacher - on how learner involvement is planned and incorporated into the use of these methods. These are methods in which the learner learns from the experience of the expert, relies on the expert to guide the flow of content, it is the expert who determines which content units follow one another.

Group 3 - experiential content, high involvement

These are active learning methods based on various experiences. These methods cannot be implemented without the active involvement of the learner. The experiences on which the learning process in this group is based can be different for different methods - firstly, they can be acquired during the use of the method (gamification, simulation of real situations), secondly, the method works with experiences already acquired before the learning process (analysis of one's own performance, coaching, mentoring, supervision), thirdly, it can also be learning from the experiences of others (exchange groups in person or remotely, conversations with a support partner).

Given that the learners drive their learning process, it can be assumed that the method chosen will be relevant to their needs and that the knowledge gained will be immediately applicable. An exception would be the second group of methods, where an expert has determined the learning content and may, at some point, not meet the needs of each group member.

Table 3 Authors' breakdown of learning methods

| | | |
|---|-----------------------------|---------------|
| Specialized literature | Self-selected | Low |
| Listening to audiobooks | Self-selected | Low |
| Listening to podcasts | Self-selected | Low |
| 1. Group | | |
| Attending webinars online | Expert-driven content | Low / Medium |
| Attending lectures in person | Expert driven content | Low / Medium |
| Independent study of online courses | Expert driven content | Medium / High |
| Microlearning - receiving a small piece of information or task at regular intervals | Expert-driven content | Medium / High |
| Participation in online workshops/masterclasses | Expert-driven content | Medium |
| Participation in on-site workshops/masterclasses | Expert-driven content | Medium |
| 2. Group | | |
| Using gamification techniques | Content-based on experience | High |
| Simulating real situations by experiencing and analyzing them | Content-based on experience | High |
| Participating in Focus / Dixie / Experience Exchange / Mastermind groups online | Content-based on experience | High |
| Participating in Focus / Dixie / Experience Exchange / Mastermind groups in person | Content-based on experience | High |
| Independently analyzing their performance and making improvements. | Content-based on experience | High |
| Using a coaching service | Content-based on experience | High |
| Mentoring guidance | Content-based on experience | High |
| Using the supervision service | Content-based on experience | High |
| In conversation with a close person/support partner | Content-based on experience | High |

3. RESEARCH METHODOLOGY

3.1. Sample Selection and Data Collection

Data were collected from managers of different levels (lower, middle, and upper) working in different employment sectors (public, private, NGOs) between March 23rd and April 3rd, 2023. A total of 114 respondents participated in the quantitative survey. Of these, 77% were women and 23% were men. The average age of the respondents was 42.3 years. The youngest respondent was 22, and the oldest was 65. Most respondents (33%) had 11-20 years of management experience. Additionally, 20% had 0-2 years of experience, 19% had 6-10 years of experience, 16% had 3-5 years of experience, and 12% had more than 20 years of experience. The majority of respondents were middle and senior managers. On the other hand, the level of post 17.5 percent of the participants are junior managers, 39.5 percent are middle managers, and 43 percent are senior managers. The employment sector breakdown is: 46.5% of respondents work in the public sector, 45.6% in the private sector, and 7.9% in NGOs.

Aim of the study: To explore the learning methods managers use in developing competencies to help managers and organizations design a competency development process relevant to the current learning context.

The study posed five questions:

1. How do managers perceive the need for intentional competency development?
2. Are there statistically significant differences in assessing the need for competence development between managers at different managing levels and experience?
3. Are there statistically significant differences in the methods used and their usefulness between managers at different managing levels and experience?
4. What statistically significant differences exist in the opportunities for competence development in the organization between different employment sectors?
5. Which competence development methods do managers use, and how do they evaluate their usefulness?

3.2. Method

The survey includes 11 scales with 6 to 9 items, making a total of 74 questions. The answer options are based on a Likert scale with values from 1 to 6. This scale was chosen to ensure that respondents do not have the option of giving neutral answers. In addition to the survey questions, the questionnaire also includes questions related to demographic characteristics: gender, age, management experience (in years), level of post, and sector of employment.

The questionnaire is divided into five parts:

1. Respondents assess their level of competence development
2. Respondents give their answers, in mixed order, to the factors influencing their willingness and ability to develop competencies (Likert scale formulation of extreme values: 1 - strongly disagree, 6 - strongly agree.):
 - **Awareness of the need for development** (questions 1, 5, 11, 19, 22, 24 of the questionnaire).
 - **Willingness to develop competencies** (questions 2, 3, 6, 14, 20, 23 of the questionnaire).
 - **Ability to overcome obstacles to competence development** (questions 4, 7, 10, 13, 16, 17 of the questionnaire).
 - **Opportunities for competence development in the organization** (questions 8, 9, 12, 15, 18, 21 of the questionnaire).
3. The frequency with which respondents use different methods of competence development is noted:
 - Passive learning methods, where the individual chooses the content.
 - Semi-passive and semi-active learning methods, where the content is organized and sequentially taught by a knowledgeable professional.
 - Active learning methods, such as learning from one's own experience, individually or with a specialist.
4. The respondents' perceived usefulness of each of the above methods.
5. Information on demographic characteristics is requested.

The respondents assessed the level of competence for eight of their competencies, selected according to the Great Eight Competence Model (Bartram, 2005), which is one of the current methods for capturing the competencies required of a manager. Some of the survey's competency names were slightly modified to provide respondents with a more specific competency framework. The competencies included are Entrepreneurship and Initiative, Planning and Organizing, Analytical Thinking, Adapting to Change, Generating and

Implementing New Ideas, Communicating and Clearly Communicating Ideas, Team Leadership and Decision Making, Supporting Others and Collaborating

In order to examine the internal consistency and reliability of the survey scales and perform a more extensive statistical analysis of the quantitative data, Cronbach's alpha was calculated for most of the scales. However, this was not done for the Competence Development Level scale, where each item is about a different competence, so internal data consistency is not required. The results show each scale's reliability and the data's internal consistency, as all scales analyzed have Cronbach's alpha coefficients between 0.6 and 0.9.

4. FINDINGS

4.1. Awareness of the need for development

When rating the six statements about the need for competency development on a scale of 1 to 6, with the Likert scale ending in 1 = strongly disagree; 6 = strongly agree, managers on average rated all statements above 5, indicating that awareness of the need for development is high among respondents. Figure 2 shows that the statement, "To lead a team successfully, you need to consciously work on developing your competencies" is rated the lowest (5.10), while the statement, "A good manager is always developing" is rated the highest (5.71).

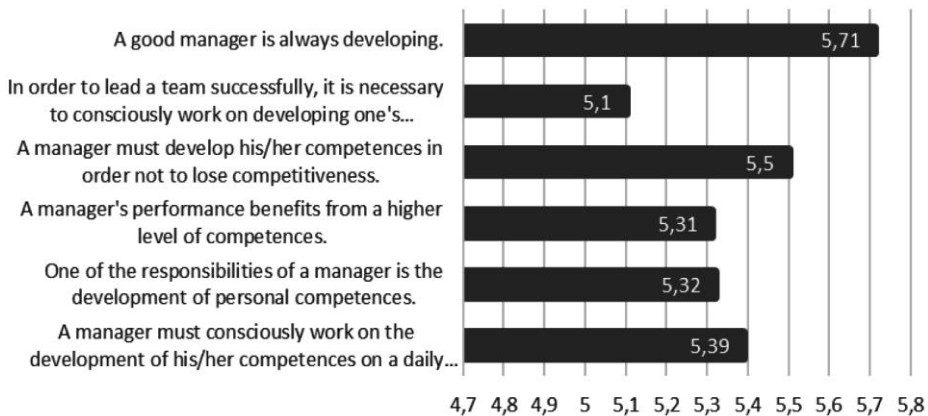


Fig. 2 Awareness of the need for development

The authors conclude that respondents' awareness of the need to develop managerial competencies is at a high level, which could indicate a willingness to work on developing their competencies, as well as a willingness to overcome various obstacles to this development.

4.2. Normal Distribution and Correlations

The Kolmogorov-Smirnov test was performed on the questionnaire scales to determine whether they followed a normal distribution. It was found that three scales followed a normal distribution: level of competence development (Sig=0.2), frequency of use of expert-driven content with medium engagement (Sig=0.2), and usefulness rating of methods with self-

directed content with low engagement (Sig=0.176). The other scales do not follow a normal distribution as Sig<0.05.

Table 4 Correlations

| | | Level of competence development | Awareness of need | Willingness to develop comp. | Ability to overcome obstacles | Opportunities within the company | Same/low, frequency | Expert/medium frequency |
|----------------------------------|---------------|---------------------------------|-------------------|------------------------------|-------------------------------|----------------------------------|---------------------|-------------------------|
| Level of competence development | Correl. coef. | 1.000 | .245** | .522** | .466** | .274** | .267** | .279** |
| Awareness of need | Corel. Coef. | | 1.000 | .404** | .270** | .122 | .327** | .350** |
| Willingness to develop comp. | Correl. Coef. | | | 1.000 | .701** | .568** | .314** | .528** |
| Ability to overcome obstacles | Correl. Coef. | | | | 1.000 | .740** | .314** | .409** |
| Opportunities within the company | Correl. Coef. | | | | | 1.000 | .308** | .347** |

In contrast, the willingness to develop competencies correlates most strongly (0.701) with the ability to overcome obstacles related to competence development. Thus, those who are aware of the need to develop their competencies and are willing to do so might also be best coping with the various obstacles to competence development.

4.3. Linear regression

Table 5 Linear regression

| Independent variables | B | Std. Error | Beta | t | Sig. |
|--|-------|------------|-------|-------|-------|
| Have a clear personal competence development plan | 0.617 | 0.310 | | 1.994 | 0.049 |
| Opportunities for competence development in the organization | 0.456 | 0.079 | 0.400 | 5.804 | 0.000 |
| Dependent variable: Ability to overcome obstacles to competence development | 0.376 | 0.051 | 0.508 | 7.375 | 0.000 |

It can be seen in Table 5 that the ability to overcome obstacles to competence development is the dependent variable, and the independent variables are having a clear personal competence development plan and opportunities for competence development in the organization. The P-value is less than 0.05, so it can be said with a 95% probability that there is a significant correlation. In addition, opportunities for competence development in the organization have a greater impact on Opportunities for competence development in the organization (Beta=0.508).

4.4. The Kruskal-Wallis and Mann-Whitney U tests

The Kruskal-Wallis test for differences and the one-factor ANOVA test were used to answer the second, third, and fourth research questions. Using the Kruskal-Wallis test, differences were found only in the level of skill development opportunities organizations offer in all three employment sectors (see Table 6). This test showed that the differences are statistically significant at $p=0.025$ ($p<0.05$).

Table 6 Kruskal-Wallis test

| Kruskal-Wallis test | Opportunities for competence development in the organization |
|---------------------|--|
| Kruskal-Wallis H | 7.395 |
| df | 2 |
| Asymp. Sig. | .025 |

In order to find out which groups are significantly different from each other, Mann-Whitney U tests were performed (see Table 7). There are significant differences between the public and private sectors ($p=0.007$), with the mean score for the public sector being 3.12 and the mean score for the private sector being 3.79. As the difference is statistically significant, it can be concluded that the private sector offers more opportunities for skills development than the public sector, as perceived by the learners.

Table 7 Mann-Whitney U tests

| Public/private sector | Opportunities for developing competencies in the organization | Private/non-governmental sector | Opportunities for developing competencies in the organization | Public/non-governmental sector | Opportunities for developing competencies in the organization |
|------------------------|---|---------------------------------|---|--------------------------------|---|
| Mann-Whitney U | 961.000 | Mann-Whitney U | 176.000 | Mann-Whitney U | 224.000 |
| Wilcoxon W | 2392.000 | Wilcoxon W | 221.000 | Wilcoxon W | 1655.000 |
| Z | -2.675 | Z | -1.181 | Z | -.290 |
| Asymp. Sig. (2-tailed) | .007 | Asymp. Sig. (2-tailed) | .238 | Asymp. Sig. (2-tailed) | .772 |

Figures 3, 4, and 5 combine two scales with identical items but different statement settings. For example, one version of the scale gathers information about the frequency of use of 6 low-engagement learning methods where the respondent chooses the content. The use frequency is evaluated on a scale from 1 to 6, with the Likert scale providing the final values: 1 = never; 6 = very often. In the second scale, respondents rate the effectiveness of the same 6 learning methods on a scale from 1 to 6, where the Likert scale endpoints are: 1 = completely ineffective; 6 = very effective.

4.5. Group 1 – Self-selected content, low involvement (hereafter: self/low). Frequency of use and usefulness rating.

Respondents indicate that the most frequently used learning methods are medium-engagement learning methods (3.60), which could be due to the content being absolutely self-directed and not requiring the involvement of others to acquire new competencies. The lower level of involvement also requires less effort than the other methods considered, which could be a reason for choosing these methods more often. On the other hand, listening is the least frequently used by the managers surveyed, with an average of 2.43 for audiobooks and 3.23 for podcasts. In contrast, online visual content (such as videos and recorded webinars) is the most frequently used (4.50), which is interesting as this is the type of learning method that provides one of the highest information reception for the passive methods, according to the percentage distribution of E. Dale. However, the average usefulness score for this scale is the lowest (3.99) compared to the methods discussed below. From these results, it can be suggested that there is an 'untapped potential' of audiobooks and podcasts as listening learning methods because they provide a higher information uptake compared to written sources and are rated relatively high in terms of usefulness by respondents themselves (see Figure 3).

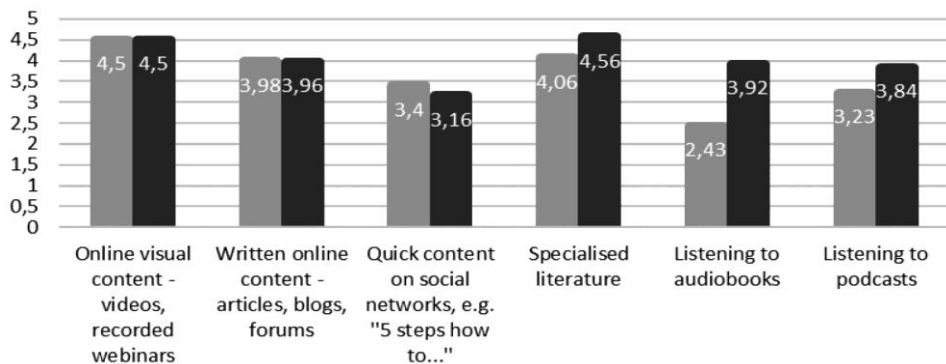


Fig. 3 Same/low frequency and usefulness

In addition, it would be recommended that managers be informed about the advantages offered by different methods and how they can be successfully linked to the competence development process so that they can select from several methods when designing their own self-directed learning process.

4.6. Group 2 - expert-led content, medium involvement (hereafter: expert/medium), frequency of use and usefulness rating

The 6 methods on this scale are used almost as often (3.56) (see fig. 4) as self-directed content and low involvement methods, and the perceived effectiveness is fairly high, with an average of 4.51. Distance learning opportunities are used more than face-to-face activities (see Figure 4), and this might be a consequence of the COVID-19 pandemic, which generated various constraints and caused an increase in the number of remote jobs over the past more than 3 years. Managers are now most likely (4.24) to attend online webinars and less likely (3.21) to attend face-to-face workshops and master classes.

Microlearning, in which managers receive a small piece of information or a task at a regular and fixed time, is the least used option (2.87), and there is a higher number of managers who do not know this method than those who do.

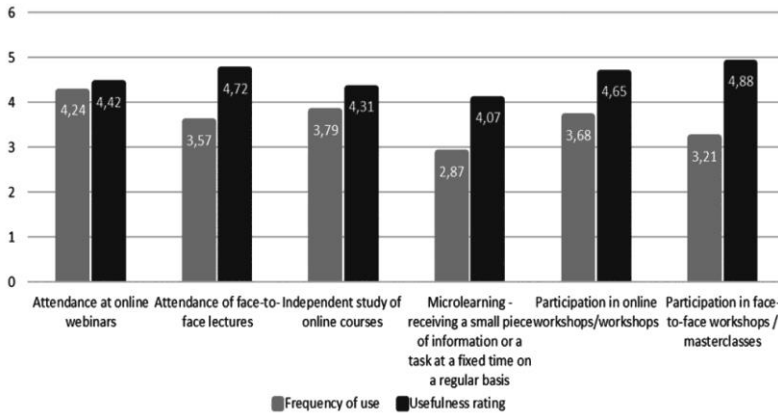


Fig. 4 Frequency and usefulness of expert/medium

The authors conclude that respondents are more likely to choose remote medium engagement methods, even if face-to-face activities are rated as more useful, and it might also be related to the impact and consequences of the COVID-19 pandemic.

4.7. Group 3 - experiential content, high involvement, frequency of use, and usefulness ratings

These methods are used relatively infrequently (2.88), with respondents indicating they are less likely to use them. The only highly participative methods based on personal experience that respondents are more likely to use are talking with a close or supportive partner (4.52) and independently analyzing one's own performance to make improvements (4.48) (see Figure 5).

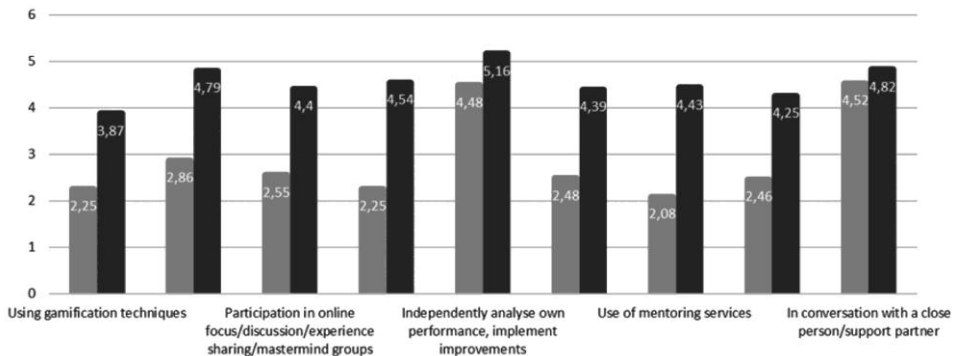


Fig. 5 Experience/high frequency and usefulness

It can be suggested that managers are aware of the usefulness of various high-involvement methods but that some circumstances reduce the frequency of their use. This may be related to the barriers to skill development discussed earlier, as higher engagement also requires more resources from the learner. There may also be a lack of information about the availability of these methods to respondents, which would be worth providing.

5. CONCLUSIONS

Managers rate their level of competency development as high and fairly consistent but see opportunities for growth and development in all competencies.

Respondents' understanding of the need to develop managerial competencies is high, which could indicate a willingness to work on developing their competencies, as well as a willingness to overcome various obstacles to this development.

Managers who are aware of the need to develop their competencies and are willing to do so are the ones who are best able to cope with the various obstacles related to competency development.

There are no statistically significant differences between managers at different levels and working experience regarding the frequency and usefulness of any of the groups of learning methods analyzed.

The private sector offers more opportunities for competence development than the public sector.

No statistically significant differences exist between the non-governmental sector and other organizations in providing competence development opportunities.

Low-involvement methods for self-directed content could be used less frequently and replaced by high-involvement methods for experiential content, which respondents rate as more useful.

For methods with expert-driven content and moderate participant involvement, there is currently a consistent balance among respondents in terms of frequency of use and perceived usefulness.

Compared to the other methods, both the frequency of use and usefulness are higher for expert-driven content and moderate participation.

Managers are aware of the usefulness of various high-engagement methods, but there might be barriers that reduce the frequency of their use.

Higher engagement requires more resources from the learner, and there might be a lack of information about the availability of these methods that would be worth providing to managers at all levels.

REFERENCES

- Bartram, D. (2005). The Great Eight Competencies: A Criterion-Centric Approach to Validation. *Journal of Applied Psychology*, 90(6), 1185-1203. <https://doi.org/10.1037/0021-9010.90.6.1185>
- Craps, S., Pinxten, M., Knipprath, H., & Langie, G. (2021). Different roles, different demands. A competency-based professional roles model for early career engineers, validated in industry and higher education. *European Journal of Engineering Education*, 47(1), 144-163. <https://doi.org/10.1080/03043797.2021.188946>
- Criollo-C, Guerrero-Arias, A. Jaramillo-Alcázar, Á., & Luján-Mora, S. (2021). Mobile learning technologies for education: Benefits and pending issues. *Applied Sciences*, 11(9), 4111. <https://doi.org/10.3390/app11094111>
- Dale, E. (Eds.) (1946). *Audio-visual Methods in Teachin*. New York: Dryden Press.

- Dent, F. E., Macgregor, R. A., & Wills, S. (1994). *The Ashridge Guide to Self-Managed Development*. London: Pitman Publishing.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (Eds)(2011). From game design elements to gamefulness: defining "gamification". *Proceedings of the 15th International Academic MindTrek Conference:Envisioning Future Media Environments*. ACM. New York: The Association for Computing Machinery, Inc. <https://doi.org/10.1145/2181037.2181040>
- EI Design, 2022. *Mobile Apps*. Retrieved from: <https://www.eidesign.net/apps-for-learning/> Accessed on: 10 May 2023.
- Fotso, G. M. N. (2022). Differences Between Senior Human Resources Managers and Young Millennials Leaders on the Perceived Required Leadership Competencies for the 21st century. *Journal of Human Resource Management*, 10(1), 5. <https://scite.ai/reports/10.11648/j.jhrm.20221001.12>
- Gejendhiran, S., Anicia, S. A., Vignesh, S. N., & Kalaimani, M. (2020). Disruptive Technologies - A promising key for Sustainable Future Education. *Procedia Computer Science*, 172, 843-847. <https://doi.org/10.1016/j.procs.2020.05.121>
- Grīnfelds, A., (2017). *Mentoring kā jauno skolotāju atbalsta veids Latvijā*. [Mentoring as a way to support new teachers in Latvia] Master thesis. Latvia University of Life Sciences and Technologies.
- Kavanagh, S., Luxton-Reilly, A., Wuens, B., & Plimmer, B. (2017). A systematic review of Virtual Reality in education. *Themes in Science & Technology Education*, 10(2), 85-119.
- Leigh, D. (Eds) 1996. *Designing and Delivering Training for Group*. London: Kogan Page Limited.
- Lieģeniece, D. (2002). *Ievads andragoģijā*. [Introduction to andragogy]. Riga: Raka
- Mali, M., Sonawane, S., & Jadhav, V. (2021). Micro-learning (ML): An effective way of learning in Teacher Education. *Zeichen Journal*, 7(7), 101-108.
- Mārtinsons, K. & Zakriževska-Belogradova, M. (2021). *Supervīzija*. [Supervision]. *Latvian National Encyclopedia: supervision*. Retrieved from: <https://enciklopedija.lv/skirklis/98499-superv%C4%ABzija> Accessed on: 22 August 2023.
- Pease, G., Beresford, B., & Walker, L. (2014). *Developing human capital: Using analytics to plan and optimize your learning and development investments*. Hoboken, NJ: John Wiley & Sons, Inc.
- Pietroni, E. (2019). Experience Design, Virtual Reality and Media Hybridization for the Digital Communication Inside Museums. *Applied system innovation*, 2(4), 35. <https://doi.org/10.3390/asi2040035>
- Priscila, 2021. *What is Mobile Learning (m-learning)? Definition explained*, Retrieved from: <https://www.easy-lms.com/knowledge-center/lms-center/mobile-learning/item10388#m-learning-corporate-education> Accessed on: 23 April 2023.
- Reinsone, S. (2020). Studiju darba apraksts: *Mobilo tālrunu balstītas mikromācīšanās izpēte*, [Exploring mobile phone-based microlearning], Retrieved from: <https://nda.rtu.lv/lv/view/26893> Accessed on: 3 August 2023.
- Smutný, P., Procházka, J., & Vaculík, M. (2014). Developing managerial competency model. In Pavel Jedlička. *Economic Development and Management of Regions* (pp. 309-315). Hradec Králové: University of Hradec Králové.
- Snidzane, L., & Golubeva, J. K. (2021). *Koučinga tehnikas. Soli pa solim. Sev, komandai, biznesam*. [Coaching techniques. Step by step. For yourself, for your team, for your business]. Jelgava: SIA "MetaCoach"
- Stoten, D. W. (2021). Building adaptive management capability:the contribution of heutagogy to management development in turbulent times. *Journal of Management Development*, 40(2), 121-137. <https://doi.org/10.1108/JMD-10-2019-0448>
- Valcour, M. (2020). *Anyone Can Learn to Be a Better Leader*. Retrieved from: <https://hbr.org/2020/11/anyone-can-learn-to-be-a-better-leader> Available at: 30 July 2023
- Werbach, K. (2014). *(Re)Defining Gamification: A Process Approach*. Persuasive 2014, LNCS 8462, pp. 266-272 , Available at SSRN: <https://ssrn.com/abstract=3578584>

RAZVOJ KOMPETENCIJA KORPORATIVNOG LIDERSTVA U KONTEKSTU SAVREMENOG UČENJA

Relevantnost teme određena je brzim razvojem globalnih događaja, neprestanim izazovima koji utiču na radno okruženje i razvoj tržišta i potrebom menadžera da se izbore sa novim i dosad nepoznatim izazovima. Kontekst učenja se također razvija, uvodeći nove mogućnosti i metode učenja koje se međusobno dopunjuju.

Nivo kompetencija je procenjen od strane učesnika za osam njihovih kompetencija, odabranih prema modelu Velikih Osam Kompetencija, koji je jedan od aktuelnih pogleda na način kako se procenjuju sposobnosti neophodne jednom menadžeru.

Cilj istraživanja: Proučiti metode koje menadžeri biraju pri razvoju kompetencija, i dati predloge za menadžere i organizacije kako osmisliti proces razvoja kompetencija koji bi bio relevantan u trenutnom kontekstu učenja. Ukupno je 114 menadžera učestovalo u studiji.

Glavni zaključci: menadžeri visoko vrednuju nivo razvoja svojih kompetencija, ali vide i prostora za rast i dalji razvoj svih kompetencija. Menadžeri češće koriste pasivne metode učenja, koje ocenjuju nižom ocenom u smislu efikasnosti nego aktivne metode koje se baziraju na sopstvenom iskustvu. Nema značajnih razlika između menadžera različitih nivoa i dužine njihovog iskustva. Postoji razlika u kapacitetu za razvijanje kompetencija u organizacijama. Najniži kapacitet za razvoj kompetencija je u organizacijama javnog sektora.

Ključne reči: Liderstvo, Kompetencije, Savremeno učenje, Nesvesno učenje

DETERMINANTS OF ENTREPRENEURS IN LOGISTIC INDUSTRY: GEM STUDY ANALYSIS


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658.62


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Abstract. *The subject of this paper's analysis are the determinants of entrepreneurs in the early stages of the development of their ventures in logistic industry. The goal is to identify the factors that influence the decision to engage in entrepreneurial activity in the logistics sector. For the analysis, the Global Entrepreneurship Monitor (GEM) database was used, from which 73,806 respondents from European countries were filtered, of which 192 were from the field of logistics. Statistical analysis was performed using the statistical analysis software package Stata IC 15.0. The research covers demographic factors, growth factors, internationalization factors and motivational factors. Demographic factors (gender, age, work status) are statistically significant for entrepreneurs in the field of logistics. Men are more likely to be entrepreneurs in the logistics sector. The 18 to 25 and 45 to 54 age groups are most likely to engage in these ventures. Self-employed is the predominant work status of these entrepreneurs. Entrepreneurs in the field of logistics are characterized by the expectation of an increase in the number of employees, as well as a significant percentage of realized income from abroad. Financial motivators are what drive entrepreneurs in the logistics sector.*

Key words: *Logistics, entrepreneurship, growth, internationalization, motivation.*

JEL Classification: M21

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I. INTRODUCTION

The story of logistics is always current and attracts a lot of attention from researchers, as evidenced by the abundance of research and writing in this area. Fierce competition on the global market, shortening of product life cycles, technological innovations, digital transformation of companies, and changes in customer expectations direct attention to the logistics sector. Logistics includes all activities that enable customers to receive the right products, in the right quantity and at the right time (Kasilingam, 1998). Harrison et al., (2019) see logistics as a subset of the supply chain. They point out that the logistics task is to manage the flow of physical goods and information within the supply chain. The Council of Logistics Management defines logistics as the process of planning, implementing, and controlling the efficiency, flow and storage of goods, services, and related information, from the point of origin to the point of consumption to comply with customer requirements. Successful management of logistics activities requires a focus on every facility that affects the process of matching products with customer requirements. The quality of logistics services is one of the key factors of the business environment that improves the long-term relationship between logistics service providers and customers (Nedeliaková et al., 2014). In addition, logistics activities should be cost-effective for the entire system. This means minimizing system costs, which include transportation, distribution, and storage costs. The emphasis is not on the simple minimization of these costs, but on the systematic application of management logic. Logistics service providers are forced to adapt their strategies and bring innovation to ensure low-cost service and delivery according to customer requirements and expectations. The story of innovation in logistics leads mainly to entrepreneurs in this field (Sousa-Zomer & Miguel, 2018). Entrepreneurs change their strategies more easily, react to changes faster and find solutions to new challenges. They will create more innovative products, thereby improving the use of resources and contributing to the improvement of logistics activities. Understanding the involvement of small entrepreneurs in the logistics sector is the focus of this research. The goal is to identify the determinants that have a decisive influence on the choice of an entrepreneur's career in the field of logistics. The structure of the work is as follows. The literature relevant to this field was analysed. The influence of demographic factors on the career choice of entrepreneurs in the field of logistics is considered. In addition, the factors of growth, internationalization of business and motivation are also in focus, as important determinants of entrepreneurs in the field of logistics. Data from the Global Entrepreneurship Monitor (GEM) database was used for the analysis. The methodology and results are presented below. The task included determining the common characteristics of nascent entrepreneurs and entrepreneurs whose venture is in the incubation period, from the European area. At the end, there will be a discussion and concluding messages.

2. THEORETICAL BACKGROUND

Logistics is a big word for a big challenge (Harrison & Sar, 2019). It refers to the process of moving and coordinating resources, such as food, materials, equipment and even people, from one location to another. Logistics includes activities aimed at guaranteeing the efficiency and effectiveness of all procedures related to the movement of all types of resources from the place of origin to the destination, while meeting the required quality, including the reliability of information and the sensitivity of customer needs (Domingues

et al., 2015). The profitability of the company is largely conditioned by the costs caused by logistics, which justifies the focus on this area (Vuković et al., 2020). According to the areas, logistics can be procurement, production, sales, recovery, and recycling logistics (Ruziyev & Bakhridnova, 2022). It can be viewed through two dimensions. The first dimension includes movement, storage, and "reordering", as the three operational activities that make up logistics. Their value addition is based on place, time, and handling (3P). Place matters in the sense of moving from a location of less to a location of greater value to the customer. Timing and pacing refer to adding time value, which means making it possible to bridge the time gaps between when products are available and when customers need them. Handling of materials implies arrangement in specific quantities and samples (collection, packaging, sorting). The second dimension refers to supply chain management, which involves coordinating processes and harmonizing the flow of information, money, products, and ideas (Sheffi & Klaus, 1997). In this sense, dynamic solutions are key, which can respond to existing situations, but can be adapted and changed. It is necessary to build sustainable systems that can respond to all challenges. The logistics system is one of the critical infrastructures that should ensure rational use of resources and easy access to services. All elements of the logistics system are interconnected, which concretely means that in certain situations, lower transportation costs can cause higher storage or inventory management costs. Entrepreneurs, as flexible and innovative actors in this sector, can find better solutions for harmonizing these activities than a corporation would. The development of other sectors is largely dependent on logistics. Entrepreneurs have contributed to the development and transformation of logistics, as entrepreneurship in the transport and supply chain sector can have a direct and significant impact on all activities (Negrutiu et al., 2020). These authors dealt with the concrete application of sustainable entrepreneurship in the transport and supply chain sector. They discussed the importance of the green entrepreneur, the digital freight forwarder, the platforms used in this area and thus showed the potential for innovation that entrepreneurs bring. Digitization of business opens new opportunities for entrepreneurs in logistics (Popkova et al., 2021). In their work, they proposed a conceptual model of digitalization of transport and logistics in Russia. Marshall et al. (2015) argues in their paper the strength of the link between entrepreneurship and supply chain sustainability. They are thrown by breaking down and managing cultural attributes, which are needed to establish social sustainability in supply chain management. The contribution of entrepreneurship in logistics business is also confirmed by Chienwattanasook et al. (2019), who emphasize corporate entrepreneurship. They concluded that corporate entrepreneurship has a major role for performance that is significant in logistics business. Entrepreneurial ventures are not initiated by chance and are the result of some planned behaviour (Ejzen, 1991). The author starts from the assumption that it is possible to single out key determinants that characterize an entrepreneur from this field. Understanding the involvement of entrepreneurs in the logistics sector imposes the need to understand the factors that decisively influence the choice of that sector. The research focuses on demographic factors, growth factors and factors of business internationalization and motivation factors.

2.1. Demographical factors

Demographics include age, gender, education, employment status, marital status, household size, and more. Demographic variables can explain entrepreneurial choice (Arafat & Saleem, 2017). Javalgi & Grossman (2016) point out that demographic characteristics are responsible for the orientation of entrepreneurs and the search for new opportunities. Haus et al. (2013) reviewed the literature related to starting entrepreneurial ventures from the perspective of gender and concluded that men are at an advantage. This is supported by later research (Tsai et al., 2016; Arafat & Saleem, 2017). The explanations for this situation are mainly related to the fact that men's propensity to risk is much lower, then through the pressures of the family and work environment, which are much greater for women, and the very specificity of jobs in the logistics sector, which are not too attractive for women. Various studies provide a mixed picture of the influence of age on entrepreneurial choice. Older people are characterized by a much higher level of responsibility, widespread networks of acquaintances, more knowledge and experience, while younger entrepreneurs are closer to new technologies, are more energetic, have greater potential for development and improvement, because they do not know their limits (Arenius & Minniti, 2005). Aging is usually seen in a negative relationship with the initiation of entrepreneurial ventures (Janssen, 2003; Brixy & Hessels, 2010), because age is associated with a lack of creativity and innovation, a greater aversion to risk and a desire for a secure job. For entrepreneurs in the field of logistics, the situation is different. Carrying out work in the field of logistics requires experience and knowledge in this field, financial resources, means of transport, construction facilities and a wide network of acquaintances. This takes time and all this is acquired over years, so it is unlikely that a young person will create these prerequisites and start his venture in the logistics sector. For this reason, it is more likely to expect a positive relationship between the age of doing logistics (Pindado Tapia & Sánchez García, 2017; Zagata & Sutherland, 2015). Work status is a factor considered statistically significant for entrepreneurial intentions (Startiene & Remeikiene, 2009). The assumption is that the category of self-employed compared to other categories carries the highest probability of starting a business in this sector (Arafat & Saleem, 2017). In the analysis, the author considers the size of the household as an important determinant of entrepreneurs in the logistics sector. The literature presents the effect of family size on entrepreneurs in an ambiguous way. On the one hand there are those who claim that larger families will have the effect of dissuading a person from entrepreneurial engagement, since they are constantly in a situation where they must sacrifice time spent with their family for the sake of work (Shelton & John, 1996). On the other hand, it is said that a larger number of household members will positively influence the growth of entrepreneurial ventures. A larger number of household members represents a source of labour, which can contribute to the enterprise. In addition, more members can indicate greater financial security of the family, which gives greater freedom for risk and entry into entrepreneurial waters (Raijman, 2001). The first hypothesis is based on the performed analysis:

H1: Demographic characteristics (age, employment status and household size) influence the probability of an entrepreneur's career choice in the logistics sector in Europe.

2.2. Growth factors

The impact of entrepreneurial ventures on the economic development of countries is realized through its growth in the form of creating new jobs, developing innovations, and entering foreign markets. Entrepreneurs contribute to the economic development of countries in different ways. Some of them want to develop new products and offer them to the market, some of them strive to expand their business and make additional hires in accordance with the needs of the company, while some see their chance in entering other markets. This is also the main reason for the inclusion of these elements in the research by the Global Entrepreneurship Monitor. The importance of the analysis of the mentioned elements is especially highlighted during the early phase of the entrepreneurial process, including entrepreneurs, owners whose ventures have not yet completed 42 continuous months of paid wages. The desire to grow an entrepreneurial venture represents a clear link between entrepreneurship and one of the most important goals of governments of all countries highlighted in the form of creating new jobs (Oyelola et al., 2013). The interest in researching the growth of entrepreneurial ventures is understandable due to the identification of the various impacts of entrepreneurship on the economy of countries, especially in the area of the potential for creating new jobs, which in crisis periods, in conditions of falling economic activity and the employment rate, represents a source of data for harmonizing the enactment and adoption of various strategies, measures and policies by the governments of individual countries. Entrepreneurship as a discipline has become a very interesting subject of study and consideration by numerous researchers (Khan et al., 2005; Stam et al., 2012; Estrin et al., 2022). Entrepreneurship draws interest in research in this area from numerous facts as well as active promotions. Entrepreneurship represents the basis of economic activities of developed countries; developed entrepreneurial initiative is a characteristic of the economy of highly developed countries. It affects economic development, affects the increase in the employment rate through the generation of new jobs, etc. The creation of new jobs is the result of the entrepreneur's desire to achieve the growth of the entrepreneurial venture (Karadeniz & Özçam, 2010; Petrović & Leković, 2019). It is a big contribution to the economic development of countries because many newly founded companies have an enviable potential for the growth of enterprises and the creation of new jobs. The entrepreneurship literature recognizes two sources of economic growth through entrepreneurship development. The first ones represent already existing, developed, successful small, medium, and large companies that arose based on entrepreneurial ventures, while the second source is recognized in the form of new and growing companies, entrepreneurs who are in the early stages of the entrepreneurial process. According to the GEM methodology, this group of entrepreneurs is identified as individuals who are personally involved in the creation of a new entrepreneurial venture. They are simultaneously owners/managers of a business that is not older than 48 months. In accordance with the above, the following hypothesis is put forward:

H2: Growth factors affect the probability of choosing an entrepreneurial career in the logistics sector in Europe.

2.3. Internationalization factors

Entrepreneurs, as carriers of the entrepreneurial process, based on the observation and profitable exploitation of identified opportunities, often find opportunities for the growth of their enterprise beyond the borders of their country. Along with the strengthening of the process of globalization of the world economy, in the previous decade there was also an interest in the internationalization of entrepreneurial ventures (Časas & Dambrauskaitė, 2011). The internationalization of business is not only related to the appearance of multinational companies but is also available to newly founded entrepreneurial ventures that, with the help of available technologies, innovative products/services, and available markets, find their chance for growth outside the framework of national economies (Alves et al., 2017). One of the important determinants influencing the decision to enter foreign markets is expressed through the size of the domestic market. Internationalization of business as a process of identifying and exploiting opportunities outside national frameworks can be viewed from two levels. From the perspective of the entrepreneur who identifies and makes decisions about the exploitation of perceived opportunities, and from the perspective of the company that enables the entrepreneur to profitably exploit the perceived opportunities. In today's time of globalization of business and in conditions of evident market liberalization, entrepreneurs and their ventures should take advantage of all the easier conditions for entering other markets (Castaño et al., 2016). The possibility of accessing other markets, tailoring the business offer according to consumer requirements, represents an opportunity for the growth of the company, which sometimes seems unattainable within national borders. The internationalization of business not only affects the growth of the company's business, but it also inevitably affects the development of innovations in products/services or processes. The internationalization of the company's operations provides contact with other companies from abroad, with competitors, consumers, suppliers, which is the basis for the development of open innovations. The successful development of innovations will represent the potential for the growth of the company's business due to a more successful performance on the domestic and international market, which ultimately brings the entrepreneurial venture to the more mature stages of the entrepreneurial process. Based on the analysed literature, the third hypothesis is defined:

H3: Internationalization of business affects the probability of choosing an entrepreneurial career in the logistics sector in Europe.

2.4. Motivation factors

Motivation is behind the decision to start a new business venture (Urban & Richard, 2015). It is the driving force behind entrepreneurial ventures. Every behaviour of an individual is basically motivated by certain motives. They are the reasons why someone is willing to change his attitudes, intentions, and activities. Motivation is the result of the action of internal and external factors, which results in investing effort in certain activities to achieve set goals. Human needs lead to tension, which results in motivation and undertaking certain activities to satisfy those needs. Because of this, it is important to understand motivational factors and use that knowledge to guide future entrepreneurs (Macfaraland et al., 2022). The Global Entrepreneurship Monitor (GEM) classifies entrepreneurs into 4 categories, depending on their motivation: motivated to make a change in the world, motivated to achieve high income and increase wealth, motivated to continue

family tradition and motivated to earn money due to lack of work. This classification arose from the classification in which we have two basic categories of motives, which are motives of chance and necessity (Reynolds et al., 1999, Hessels et al., 2008; Gurtoo & Williams, 2009). Chance motives explain starting a business that resulted from a perceived opportunity (Kautonen & Palmroos, 2010). Motives of necessity explain the initiation of a business venture due to unemployment or lack of other alternatives, so these entrepreneurs are said to be pushed into entrepreneurship (Block & Koellinger, 2009). It is important for policy makers to know the factors that are in the domain of their action on entrepreneurs in different sectors (Hessels et al., 2008). The consulted literature largely emphasizes financial motivators in early entrepreneurs. There are not enough works to motivate entrepreneurs in the logistics sector. This category of entrepreneurs is generally viewed together with other categories. Since the desire for the growth of these entrepreneurs was explained in the previous point, we will use it in this part. The available literature shows that expectations of venture growth are positively related to motives for increasing income (Morris et al., 2006; Cassar, 2007). Van Gelderen et al. (2008) say in their work that by working in an organization, the possibility of earning and increasing wealth is mostly fixed, while with self-employment, this possibility is unlimited. We cannot rule out the possibility that in the logistics sector we also have those who are pushed into entrepreneurship. The sample includes developed as well as developing countries, where there are entrepreneurs from the logistics sector who are largely dependent on their company, have limited access to human resources, technology, capital, which greatly reduces their ambitions for growth (Vijaya & Kamalanabhan, 1998; Morris et al., 2006; Hessels et al., 2008). The fourth hypothesis is based on the performed review:

H4: Motivational factors affect the probability of choosing an entrepreneurial career in the logistics sector in Europe.

3. METHODOLOGY

The Stata 15.0 software package was used to analyse the results. For research purposes, the Global Entrepreneurship Monitor (GEM) database from 2019 was used. GEM represents the most relevant database related to entrepreneurship. It is a global research consortium that aims to analyse the impact of entrepreneurship on national economic development. Global data at the national level were used, which, due to their comprehensiveness and conceptuality, provide results that do not lose their significance over time. The database should enable determining the determinants of logistics entrepreneurs in Europe, who are in the early stages of developing their ventures (TEA). The countries included in the analysis are Belarus, Croatia, Cyprus, Germany, Greece, Ireland, Italy, Latvia, Luxembourg, Netherlands, North Macedonia, Norway, Poland, Portugal, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, and United Kingdom. Responses from European countries were filtered from the database, resulting in a sample of 73,806 early-stage entrepreneurs. Among them, 192 were identified from the logistics sector. TEA: Industry ISIC version 4, 1-digit code, which reflects the industrial sector of the entrepreneurial venture, was chosen as the dependent variable. For the purposes of conducting binary logistic regression, the dependent variable was recoded, which means that the logistics sector is marked with the number 1, while the other eleven sectors are marked with 0. The independent variables are grouped into four groups of factors, as presented in Table 1.

Table 1 Variables

| Factors | Variables |
|------------------------------|--|
| Demographical factors | Gender |
| | Age |
| | Household size |
| | Work status |
| Growth factors | Exp. job growth ≥ 10 persons and ≥ 50 % |
| Internationalization factors | Strong international orientation (more than 25% of revenue from outside country) |
| Motivation factors | To make a difference in the world |
| | To build great wealth or a very high income |
| | To continue a family tradition |
| | To earn a living because jobs scarce |

Source: Authors based on GEM database

Demographic factors (gender, age, household size and employment status), growth factors, business internationalization factors and motivational factors were considered. Table 2 presents the research sample.

Table 2 Research sample

| Sector | Gender | Age | Work status | Education | |
|-----------------|-------------|--------------|--------------------------|------------------------|--------|
| Other | 73,614 Male | 36,557 0-17 | 0 Full time | 36,179 None | 2.023 |
| Logistic sector | 192 Female | 37,249 18-24 | 8,008 Part time | 6,688 Some secondary | 11.567 |
| | | 25-34 | 14,332 Retired, disabled | 9,855 Secondary degree | 27.313 |
| | | 35-44 | 16,475 Homemaker | 3,202 Post-secondary | 25.795 |
| | | 45-54 | 16,375 Student | 3,506 Grad EXP | 7.109 |
| | | 55-64 | 15,130 Not working | 5,450 | |
| | | 65-120 | 3,486 Self-employed | 8,926 | |

Source: Authors based on GEM database

4. RESULTS

We start the presentation of the results with descriptive statistics, which is presented in Table 3.

Descriptive statistics show us that logistics in the early stages of entrepreneurial ventures are handled more by men than by women. The age of entrepreneurs in this field is generally between 45 and 54 years old. Another logical conclusion is related to their work status since it is dominated by self-employment. Over 80% of the respondents from the logistics sector expect the growth of their company and generate over 25% of revenue from abroad. In terms of motivation, we see that they are dominantly motivated by money.

Table 3 Descriptive statistics

| | Sector | |
|---|--------|-----------------|
| | Other | Logistic sector |
| Gender | | |
| Male | 49% | 72% |
| Female | 51% | 28% |
| Age | | |
| 0-17 | 0% | 0% |
| 18-24 | 11% | 11% |
| 25-34 | 19% | 22% |
| 35-44 | 22% | 26% |
| 45-54 | 22% | 30% |
| 55-64 | 21% | 10% |
| 65-120 | 5% | 1% |
| Work status | | |
| Full time | 49% | 38% |
| Part time | 9% | 4% |
| Retired, disabled | 13% | 3% |
| Homemaker | 4% | 1% |
| Student | 5% | 1% |
| Not working | 7% | 3% |
| Self-employed | 12% | 52% |
| Growth expectation | | |
| Yes | 99% | 82% |
| No | 1% | 18% |
| International orientation | | |
| Yes | 99% | 81% |
| No | 1% | 19% |
| Motivation | | |
| To make a difference in the world | | |
| No | 50% | 50% |
| Yes | 50% | 50% |
| To build great wealth or a very high income | | |
| No | 50% | 40% |
| Yes | 50% | 60% |
| To continue a family tradition | | |
| No | 98% | 67% |
| Yes | 2% | 33% |
| To earn a living because jobs are scarce | | |
| No | 50% | 42% |
| Yes | 50% | 58% |

Source: Authors based on GEM database

Table 4. represents the Logit model. The model is statistically significant because $p < 0.05$, and "Pseudo r" is 15.88%.

Table 4 Logit model

| TEAISIC4_ID | Coef. | Std. Err. | Z | P>z | [95% Conf. Interval] | |
|-------------------|---------|-----------|--------|-------|----------------------|------------|
| 2.gender | -0.5789 | 0.1657 | -3.49 | 0 | -0.9036626 | -0.2541418 |
| age9c | | | | | | |
| 25-34 | -0.3682 | 0.2762 | -1.33 | 0.182 | -0.909502 | 0.1730084 |
| 35-44 | -0.2749 | 0.2722 | -1.01 | 0.312 | -0.8084894 | 0.2585962 |
| 45-54 | -0.0351 | 0.2685 | -0.13 | 0.896 | -0.561423 | 0.4911488 |
| 55-64 | -0.9722 | 0.3327 | -2.92 | 0.003 | -1.624217 | -0.3201843 |
| 65-120 | -1.3022 | 0.7745 | -1.68 | 0.093 | -2.820212 | 0.2157906 |
| Hhsize | -0.0562 | 0.0558 | -1.01 | 0.314 | -0.165606 | 0.0532728 |
| Gemoccu | | | | | | |
| Part time | -0.3078 | 0.3789 | -0.81 | 0.417 | -1.0505 | 0.4348773 |
| Retired, disabled | -0.7253 | 0.4887 | -1.48 | 0.138 | -1.683064 | 0.2324905 |
| Homemaker | -1.2641 | 1.0126 | -1.25 | 0.212 | -3.248807 | 0.7206268 |
| Student | -2.0136 | 1.0262 | -1.96 | 0.05 | -4.024918 | -0.0023234 |
| Not working | -0.6826 | 0.4656 | -1.47 | 0.143 | -1.595108 | 0.2298851 |
| Self-employed | 1.5072 | 0.1603 | 9.4 | 0 | 1.193017 | 1.821289 |
| 1.teayyjob | 1.4621 | 0.2272 | 6.43 | 0 | 1.016685 | 1.907444 |
| 1.teaexpst | 1.3827 | 0.2263 | 6.11 | 0 | 0.9390986 | 1.826302 |
| teaymot1 | -0.1856 | 0.0789 | -2.35 | 0.019 | -0.340281 | -0.0309813 |
| teaymot2 | 0.4376 | 0.0893 | 4.9 | 0 | 0.2626341 | 0.6125864 |
| teaymot3 | 0.1269 | 0.0722 | 1.76 | 0.079 | -0.0145402 | 0.2684389 |
| teaymot4 | 0.2398 | 0.0847 | 2.83 | 0.005 | 0.0737097 | 0.4058663 |
| _cons | -7.4686 | 0.5445 | -13.72 | 0 | -8.535875 | -6.401299 |

Number of obs = 73 806, Log likelihood = -1122.5709, LR chi2(19) =423.81,

Prob > chi2 = 0.0000, Pseudo R2 = 0.1588

Source: Authors based on GEM database

When it comes to gender, the coefficient is negative and statistically significant. In the case of age in relation to the reference category, the statistically significant coefficient is at the age of 55-64 and it is negative. When it comes to work status, the coefficient in relation to the reference category is statistically significant and negative for the student category, and significant and positive for the self-employed category.

In terms of business growth expectations, the coefficient is statistically significant and positive. In case of internationalization of business, the coefficient is also statistically significant and positive. In the case of the motivation for engaging in entrepreneurship due to making a change in the world, the coefficient is statistically significant and negative. In the case of the motivation for engaging in entrepreneurship due to the increase in wealth and the realization of a high income, the coefficient is statistically significant and positive. In the case of the motivation to engage in entrepreneurship due to earning a living, because there is no other option for employment, the coefficient is statistically significant and positive.

To measure the connection of dependent variables with the decision to engage in entrepreneurship in the field of logistics, we focus on the concept of marginal effects. Table 5 shows their value.

The probability that males are engaged in logistics is 0.00316 and the probability that females are engaged in logistics is 0.00180 at the 0.05 significance level. There is a statistically significant difference between men and women in terms of the probability of being involved in logistics and that men are more likely to be involved in logistics than women.

Table 5 Marginal effects

| | Margin | Std. Err. | Z | P>z | [95% Conf. Interval] | |
|----------|------------|-----------|-------|-------|----------------------|------------|
| Gender | | | | | | |
| 1 | 0.0031616 | 0.0002693 | 11.74 | 0 | 0.0026338 | 0.0036894 |
| 2 | 0.0018014 | 0.0002442 | 7.38 | 0 | 0.0013227 | 0.0022801 |
| | dy/dx | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| Gender | -0.00136 | 0.0003681 | -3.7 | 0 | -0.0020817 | -0.0006388 |
| | Margin | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| TEAyyJOB | | | | | | |
| 0 | 0.0022507 | 0.0001787 | 12.59 | 0 | 0.0019005 | 0.002601 |
| 1 | 0.0093158 | 0.0018943 | 4.92 | 0 | 0.0056031 | 0.0130285 |
| | dy/dx | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| TEAyyJOB | 0.0070651 | 0.0019103 | 3.7 | 0 | 0.003321 | 0.0108092 |
| | Margin | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| TEAEXPST | | | | | | |
| 0 | 0.0022509 | 0.0001795 | 12.54 | 0 | 0.0018991 | 0.0026027 |
| 1 | 0.0086453 | 0.0017499 | 4.94 | 0 | 0.0052155 | 0.0120751 |
| | dy/dx | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| TEAEXPST | 0.0063944 | 0.0017678 | 3.62 | 0 | 0.0029296 | 0.0098592 |
| | dy/dx | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| TEAMOT1 | -0.0004661 | 0.0002001 | -2.33 | 0.02 | -0.0008583 | -0.0000738 |
| | dy/dx | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| TEAMOT2 | 0.0010987 | 0.000235 | 4.67 | 0 | 0.0006381 | 0.0015593 |
| | dy/dx | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| TEAMOT3 | 0.0003187 | 0.0001823 | 1.75 | 0.08 | -0.0000386 | 0.0006761 |
| | dy/dx | Std. Err. | Z | P>z | [95% Conf. | Interval] |
| TEAMOT4 | 0.000602 | 0.0002163 | 2.78 | 0.005 | 0.0001781 | 0.0010259 |

Source: Authors based on GEM database

The probability that an entrepreneur who does not expect an increase in the number of employees in the following period deals with logistics is 0.0022, and the probability for those who expect an increase is 0.0093 at a significance level of 0.05. This means that there is a statistically significant difference between those who expect growth and those who do not, regarding the choice of the logistics sector and that those who expect an increase in the number of employees are more likely to deal with logistics.

The probability that entrepreneurs who generate less than 25% of their income from abroad are engaged in logistics is 0.0022, and the probability for those who generate more than 25% of their income from abroad is 0.0086 at the 0.05 significance level. Based on the probabilities, we see that there is a statistically significant difference between the mentioned groups and that those who generate more than 25% of their income from abroad are more likely to deal with logistics.

There is a statistically significant difference between those who are motivated to engage in entrepreneurship to make changes in the world and those who do not, in terms of engaging in entrepreneurship in the field of logistics. A unit increase of this source of motivation will lead to a decrease in the probability of engaging in entrepreneurship in the field of logistics by 0.0004661 at a significance level of 0.05.

There is a statistically significant difference between those who are motivated to engage in entrepreneurship to increase their wealth and income compared to those who are not, in terms of engaging in entrepreneurship in the field of logistics. A unit increase in the importance of the source of motivation for increasing wealth and income will lead to an increase in the probability of engaging in entrepreneurship in the field of logistics by 0.0010987 at a significance level of 0.05.

The results showed that there is no statistical significance between the entrepreneur's decision to engage in logistics and the motivation stemming from the desire to continue the family business.

There is a statistically significant difference between those who are motivated to engage in entrepreneurship to earn a living due to lack of work and those who are not, in terms of engaging in entrepreneurship in the field of logistics. A unit increase of this source of motivation will lead to an increase in the probability of engaging in entrepreneurship in the field of logistics by 0.000602 at a significance level of 0.05. All tables should be numbered with consecutive Arabic numbers. They should have descriptive captions at the top of each table and should be mentioned in the text.

When it comes to the age of the respondents, the predicted probability of engaging in entrepreneurship in the field of logistics is highest for the categories of 18 to 24 years and 45 to 54 years. As for the 18-24 age category, the probability is 0.0036. The difference between this age category is statistically significant compared to the 55 to 64 category and amounts to -0.0022. In addition, the difference is statistically significant in relation to the over 65 category and amounts to -0.0026. For the category of 45 to 54 years, the probability is 0.0035, and the situation is identical in terms of statistically significant differences. For the category from 55 to 64 years old it is -0.0021, and for the category over 65 years old it is 0.0024.

The predicted probability of engaging in entrepreneurship in the field of logistics, when observing work status, is the highest for the self-employed category and amounts to 0.0082. All differences between the self-employed and other categories are statistically significant, which means that the self-employed have the highest probability of being entrepreneurs in the field of logistics compared to all other categories of work status.

Table 6 Marginal effects – Age

| | | Margin | Std. Err. | z | P>z | [95% Conf. | Interval] |
|-------|---|----------|-----------|-------|-------|------------|-----------|
| age9c | | | | | | | |
| | 2 | 0.003551 | 0.000781 | 4.54 | 0 | 0.002019 | 0.005082 |
| | 3 | 0.00249 | 0.000382 | 6.52 | 0 | 0.001741 | 0.003239 |
| | 4 | 0.002725 | 0.000386 | 7.06 | 0 | 0.001969 | 0.003481 |
| | 5 | 0.003433 | 0.000449 | 7.64 | 0 | 0.002553 | 0.004313 |
| | 6 | 0.001383 | 0.000319 | 4.33 | 0 | 0.000757 | 0.002008 |
| | 7 | 0.001 | 0.000723 | 1.38 | 0.166 | -0.000416 | 0.002417 |
| | | dy/dx | Std. Err. | z | P>z | [95% Conf. | Interval] |
| age9c | | | | | | | |
| 2 | 3 | -0.00106 | 0.000863 | -1.23 | 0.219 | -0.00275 | 0.00063 |
| | 4 | -0.00083 | 0.000872 | -0.95 | 0.344 | -0.00253 | 0.00088 |
| 5 | 5 | -0.00012 | 0.000907 | -0.13 | 0.897 | -0.0019 | 0.00166 |
| | 6 | -0.00217 | 0.000852 | -2.54 | 0.011 | -0.00384 | -0.0005 |
| | 7 | -0.00255 | 0.001079 | -2.36 | 0.018 | -0.00466 | -0.00044 |
| 3 | 2 | 0.00106 | 0.000863 | 1.23 | 0.219 | -0.00063 | 0.00275 |
| | 4 | 0.00024 | 0.000541 | 0.43 | 0.664 | -0.00083 | 0.0013 |
| | 5 | 0.00094 | 0.000591 | 1.6 | 0.111 | -0.00022 | 0.0021 |
| | 6 | -0.00111 | 0.000503 | -2.2 | 0.028 | -0.00209 | -0.00012 |
| 4 | 7 | -0.00149 | 0.000828 | -1.8 | 0.072 | -0.00311 | 0.00013 |
| | 2 | 0.00083 | 0.000872 | 0.95 | 0.344 | -0.00088 | 0.00253 |
| | 3 | -0.00024 | 0.000541 | -0.43 | 0.664 | -0.0013 | 0.00083 |
| | 5 | 0.00071 | 0.000586 | 1.21 | 0.227 | -0.00044 | 0.00186 |
| | 6 | -0.00134 | 0.000506 | -2.65 | 0.008 | -0.00233 | -0.00035 |
| 5 | 7 | -0.00172 | 0.00083 | -2.08 | 0.038 | -0.00335 | -0.0001 |
| | 2 | 0.00012 | 0.000907 | 0.13 | 0.897 | -0.00166 | 0.0019 |
| | 3 | -0.00094 | 0.000591 | -1.6 | 0.111 | -0.0021 | 0.00022 |
| | 4 | -0.00071 | 0.000586 | -1.21 | 0.227 | -0.00186 | 0.00044 |
| 6 | 6 | -0.00205 | 0.000554 | -3.7 | 0 | -0.00314 | -0.00096 |
| | 7 | -0.00243 | 0.00086 | -2.83 | 0.005 | -0.00412 | -0.00075 |
| | 2 | 0.00217 | 0.000852 | 2.54 | 0.011 | 0.0005 | 0.00384 |
| | 3 | 0.00111 | 0.000503 | 2.2 | 0.028 | 0.00012 | 0.00209 |
| | 4 | 0.00134 | 0.000506 | 2.65 | 0.008 | 0.00035 | 0.00233 |
| 7 | 5 | 0.00205 | 0.000554 | 3.7 | 0 | 0.00096 | 0.00314 |
| | 7 | -0.00038 | 0.000777 | -0.49 | 0.622 | -0.00191 | 0.00114 |
| | 2 | 0.00255 | 0.001079 | 2.36 | 0.018 | 0.00044 | 0.00466 |
| | 3 | 0.00149 | 0.000828 | 1.8 | 0.072 | -0.00013 | 0.00311 |
| | 4 | 0.00173 | 0.00083 | 2.08 | 0.038 | 0.0001 | 0.00335 |
| | 5 | 0.00243 | 0.00086 | 2.83 | 0.005 | 0.00075 | 0.00412 |
| | 6 | 0.00038 | 0.000777 | 0.49 | 0.622 | -0.00114 | 0.00191 |

Source: Authors based on GEM database

Table 7 Marginal effects – GEMOCCU

| | | Margin | Std. Err. | z | P>z | [95% Conf. | Interval] |
|---------|---|-----------|-----------|--------|------------|------------|-----------|
| gemoccu | | | | | | | |
| | 1 | 0.0018613 | 0.0002224 | 8.37 | 0 | 0.0014253 | 0.0022972 |
| | 2 | 0.0013721 | 0.0004865 | 2.82 | 0.005 | 0.0004185 | 0.0023257 |
| | 3 | 0.0009064 | 0.0004236 | 2.14 | 0.032 | 0.0000761 | 0.0017366 |
| | 4 | 0.0005301 | 0.0005311 | 1 | 0.318 | -0.0005109 | 0.001571 |
| | 5 | 0.000251 | 0.0002547 | 0.99 | 0.324 | -0.0002482 | 0.0007501 |
| | 6 | 0.0009456 | 0.0004224 | 2.24 | 0.025 | 0.0001177 | 0.0017736 |
| | 7 | 0.0081461 | 0.0008679 | 9.39 | 0 | 0.0064451 | 0.0098472 |
| dy/dx | | Std. Err. | z | P>z | [95% Conf. | Interval] | |
| gemoccu | | | | | | | |
| 1 | 2 | -0.0005 | 0.0005 | -0.91 | 0.363 | -0.00154 | 0.00057 |
| | 3 | -0.001 | 0.0005 | -1.97 | 0.049 | -0.0019 | -0.00001 |
| | 4 | -0.0013 | 0.0006 | -2.31 | 0.021 | -0.00246 | -0.0002 |
| | 5 | -0.0016 | 0.0003 | -4.71 | 0 | -0.00228 | -0.00094 |
| | 6 | -0.0009 | 0.0005 | -1.92 | 0.055 | -0.00185 | 0.00002 |
| | 7 | 0.0063 | 0.0009 | 7.06 | 0 | 0.00454 | 0.00803 |
| | 2 | 1 | 0.0005 | 0.0005 | 0.91 | 0.363 | -0.00056 |
| 3 | | -0.0005 | 0.0006 | -0.72 | 0.472 | -0.00173 | 0.0008 |
| 4 | | -0.0008 | 0.0007 | -1.17 | 0.241 | -0.00225 | 0.00057 |
| 5 | | -0.0011 | 0.0005 | -2.06 | 0.04 | -0.00219 | -0.00005 |
| 6 | | -0.0004 | 0.0006 | -0.66 | 0.507 | -0.00169 | 0.00083 |
| 7 | | 0.0068 | 0.001 | 6.71 | 0 | 0.00479 | 0.00875 |
| 3 | | 1 | 0.001 | 0.0005 | 1.97 | 0.049 | 0.00001 |
| | 2 | 0.0005 | 0.0006 | 0.72 | 0.472 | -0.0008 | 0.00174 |
| | 4 | -0.0004 | 0.0007 | -0.55 | 0.579 | -0.00171 | 0.00095 |
| | 5 | -0.0007 | 0.0005 | -1.32 | 0.187 | -0.00163 | 0.00032 |
| | 6 | 0 | 0.0006 | 0.07 | 0.948 | -0.00114 | 0.00122 |
| | 7 | 0.0072 | 0.001 | 7.47 | 0 | 0.00534 | 0.00914 |
| | 4 | 1 | 0.0013 | 0.0006 | 2.31 | 0.021 | 0.0002 |
| 2 | | 0.0008 | 0.0007 | 1.17 | 0.241 | -0.00057 | 0.00225 |
| 3 | | 0.0004 | 0.0007 | 0.55 | 0.579 | -0.00095 | 0.00171 |
| 5 | | -0.0003 | 0.0006 | -0.47 | 0.636 | -0.00144 | 0.00088 |
| 6 | | 0.0004 | 0.0007 | 0.61 | 0.54 | -0.00091 | 0.00175 |
| 7 | | 0.0076 | 0.001 | 7.44 | 0 | 0.00561 | 0.00962 |
| 5 | | 1 | 0.0016 | 0.0003 | 4.71 | 0 | 0.00094 |
| | 2 | 0.0011 | 0.0005 | 2.06 | 0.04 | 0.00005 | 0.00219 |
| | 3 | 0.0007 | 0.0005 | 1.32 | 0.187 | -0.00032 | 0.00163 |
| | 4 | 0.0003 | 0.0006 | 0.47 | 0.636 | -0.00088 | 0.00144 |
| | 6 | 0.0007 | 0.0005 | 1.41 | 0.158 | -0.00027 | 0.00166 |
| | 7 | 0.0079 | 0.0009 | 8.65 | 0 | 0.00611 | 0.00968 |
| | 6 | 1 | 0.0009 | 0.0005 | 1.92 | 0.055 | -0.00002 |
| 2 | | 0.0004 | 0.0006 | 0.66 | 0.507 | -0.00083 | 0.00169 |
| 3 | | 0 | 0.0006 | -0.07 | 0.948 | -0.00122 | 0.00114 |
| 4 | | -0.0004 | 0.0007 | -0.61 | 0.54 | -0.00174 | 0.00091 |
| 5 | | -0.0007 | 0.0005 | -1.41 | 0.158 | -0.00166 | 0.00027 |
| 7 | | 0.0072 | 0.001 | 7.42 | 0 | 0.0053 | 0.0091 |
| 7 | | 1 | -0.0063 | 0.0009 | -7.06 | 0 | -0.00803 |
| | 2 | -0.0068 | 0.001 | -6.71 | 0 | -0.00875 | -0.00479 |
| | 3 | -0.0072 | 0.001 | -7.47 | 0 | -0.00914 | -0.00534 |
| | 4 | -0.0076 | 0.001 | -7.44 | 0 | -0.00962 | -0.00561 |
| | 5 | -0.0079 | 0.0009 | -8.65 | 0 | -0.00968 | -0.00611 |
| | 6 | -0.0072 | 0.001 | -7.42 | 0 | -0.0091 | -0.0053 |

Source: Authors based on GEM database

5. DISCUSSION

Based on the obtained results, it is concluded that hypothesis H1 is partially confirmed. Of all the demographic characteristics considered, household size was not statistically significant. The first statistically significant demographic factor is gender. The results showed that men are more likely to deal with logistics than women. This result agrees with previous research (Tsai et al., 2016; Arafat and Saleem, 2017). The very nature of logistics jobs is one of the reasons for this, because they are much more attractive and adequate for members of the male sex, then there are social expectations, and earlier works mention a tendency to risk, which is higher in men (Haus et al., 2013). The next statistically significant factor is age. The categories of 18 to 24 and 45 to 54 years old are most likely to work in logistics. Both categories have a statistically significant difference compared to the categories of the oldest, who are over 55 years old. For the first category, the result is justified by the fact that the probability of starting a new venture is highest in earlier years and that it decreases over the years (Levesque & Minniti, 2006). The conclusion that the younger population is more likely to deal with logistics is confirmed by other works (Tsai et al., 2016; Arenius & Minniti, 2005; Ronstadt, 1983). Another statistically significant category is from 45 to 54, and it was expected, because to perform a significant part of logistics activities, experience, knowledge, financial resources, means of transport and other infrastructure are needed, the acquisition of which takes time (Pindado Tapia & Sánchez García, 2017; Zagata & Sutherland, 2015; Leković & Petrović, 2020). Blanchflower (2004) concludes that an entrepreneur is more likely to be an older person, but an emerging entrepreneur is more likely to be a younger person. The results showed that the self-employed category has the highest probability of engaging in logistics compared to all other categories and that there is a statistically significant difference between this category and all other categories of work status (Carter et al., 2003). This result is completely logical, given that the work analyzes the determinants of early entrepreneurs in the field of logistics.

The second hypothesis was fully confirmed, because the results showed that entrepreneurs in the logistics sector have expectations regarding the growth of the number of employees (≥ 10 employees or $\geq 50\%$ of employees). The result is consistent with the findings from the available literature (Tsai et al., 2016; Karadeniz & Özçam, 2010). Survival in this area is not possible for those who stagnate and do not want growth. The competitive struggle of this sector forces all participants to increase the scope of their business. The development of other activities increases the number of transactions, which represents an opportunity for entrepreneurs in the logistics sector. The door to bigger and more lucrative jobs is open only to the big ones and those who develop their business.

The results showed that it is statistically significant and more likely that an entrepreneur in the field of logistics generates over 25% of his income from abroad. Since it is the logistics sector in Europe, such results were expected. Logistics services are essential for international trade, and Europe is known for its strong international trade links. Logistics jobs are often cross-border, so the generation of a significant part of income from abroad is also expected from entrepreneurs who are in the early stages of their ventures (Ajzen, 1991; Alves et al., 2017). This concludes the confirmation of the third hypothesis.

ly stages of their ventures (Ajzen, 1991; Alves et al., 2017). This concludes the confirmation of the third hypothesis.

The study considered the role of motivation in choosing an entrepreneurial career in the logistics sector. The findings show that logistics entrepreneurs are not motivated by the need

to create change in the world. Logistics itself is an operationally supported activity, which should deliver, store, and enable the use of products and services. This makes it clear that there is not much room for making revolutionary changes, so entrepreneurs are not expected to be motivated by making changes. This motive is characteristic of many entrepreneurs (Deakins & Whittam, 2000), but not for those coming from the logistics sector.

The next statistically significant motivational factor is an increase in total income and wealth (Morris et al., 2006; Cassar, 2007). The results show that with the growth of motivation to increase income and wealth, the probability of engaging in entrepreneurship in the logistics sector also increases. The same situation applies to the last statistically significant factor of motivation, which is a living wage due to lack of work, which is a necessity factor (Morris et al., 2006; Hessels et al., 2008). We can conclude that entrepreneurs in the logistics sector are driven by financial motivators and that money drives them best. The motivation to engage in entrepreneurship due to the continuation of the family tradition is not a statistically significant factor. The reason for this is that the subjects of the study are budding entrepreneurs, whose venture is in the incubation phase. This means that they had no one to inherit the business from. Everything leads to the conclusion that the fourth hypothesis H4 is partially confirmed.

6. CONCLUSION

The development of logistics makes it possible to speed up the optimization and adjustment of the industrial structure, the realization of economic growth, and therefore faster economic development. Entrepreneurship and innovation are tools that enable the development of logistics. Looking at the determinants of entrepreneurs in the field of logistics is a necessity, to get to the source of entrepreneurial ventures in this field, which can have multiple significance. This was the goal of our research, for which the Global Entrepreneurship Monitor (GEM) database from 2019 was used. Within it, the responses of entrepreneurs in the early stages of the development of their ventures were filtered, of which 192 were those dealing with logistics.

Four groups of determinants were used to analyse entrepreneurs in the field of logistics. Demographic factors make up the first group. In terms of gender, it is more likely that an entrepreneur in the logistics sector is male. From the aspect of age, the categories from 18 to 24 and from 45 to 54 years have the highest probability of engaging in entrepreneurship in the field of logistics. Regarding work status, entrepreneurs in the logistics sector are most likely to be self-employed. Further analysis showed that entrepreneurs from the logistics sector are focused on the growth of their business. In addition, the results testify that this category of entrepreneurs is oriented towards the internationalization of business. In the case of motivation, it was found that financial motivators drive entrepreneurs in the logistics sector. When it comes to starting ventures inspired by the desire to make a difference in the world, the results show that entrepreneurs in the logistics sector do not start ventures with the motivation to bring about change in the world.

The work contributes to the increase of literature in the field of logistics and entrepreneurship. It provides a base for further research in this area. It highlights the key determinants of entrepreneurs in the field of logistics, which makes policymakers aware of where they should look for the source of motivation for ventures in this field, when

they want to stimulate or reduce them. The involvement of entrepreneurs in the logistics sector can bring multiple benefits. Entrepreneurs should bring with them flexibility and innovation. In this way, it contributes to the optimization of activities in the logistics system, within which there is a large interdependence of elements, which provides many opportunities for improvements. That is why the logistics system is the right place to use the entrepreneurial potential.

The paper contains several limitations. The title of the paper says that the determinants of entrepreneurs in the field of logistics in Europe are investigated. However, the GEM database does not cover all European countries, as some countries do not have a GEM national team that conducts and finances these studies. The results database is from 2019, which does not mean that there are no current results, but it does not guarantee them. The answers of entrepreneurs from the logistics sector were filtered from the database, which means that the questionnaire was not created specifically for this research. A more detailed questionnaire would perhaps give more detailed results, include another determinant, and give a better picture of entrepreneurs from the logistics sector. The database includes 73,806 respondents, of which only 192 are from the logistics sector, which represents another limitation. The consulted literature on the motivation of entrepreneurs did not include only entrepreneurs from the logistics sector, but mostly entrepreneurs coming from different sectors. The reason for this was the lack of literature for a specific topic.

Further research could lead to the creation of a questionnaire that is specifically designed to determine the determinants of entrepreneurs in the field of logistics. The analysis of the determinants could be carried out by year and thus give a temporal overview and make comparisons. The inclusion of other determinants could lead to new conclusions. In addition, seeking concrete recommendations for improvements from logistics entrepreneurs could have multiple benefits for many stakeholders.

REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Alves, M. F. R., Galina, S. V. R., Macini, N., Cagica Carvalho, L., & Costa, T. (2017). Internationalization and innovation in nascent companies: does gender matter?. *Journal of Small Business and Enterprise Development*, 24(4), 887-905. <https://doi.org/10.1108/JSBED-01-2017-0020>
- Arafat, M. Y., & Saleem, I. (2017). Examining start-up Intention of Indians through cognitive approach: a study using GEM data. *Journal of Global Entrepreneurship Research*, 7, 1-11. <http://dx.doi.org/10.1186/s40497-017-0073-3>
- Arenius, P., & Minniti, M. (2005). Perceptual variables and nascent entrepreneurship. *Small business economics*, 24, 233-247. <https://doi.org/10.1007/s11187-005-1984-x>
- Blanchflower, D. G. (2004). Self-employment: More may not be better. *Swedish Economic Policy Review*, 11(2), 15-73.
- Block, J., & Koellinger, P. (2009). I can't get no satisfaction—Necessity entrepreneurship and procedural utility. *Kyklos*, 62(2), 191-209. <https://doi.org/10.1111/j.1467-6435.2009.00431.x>
- Brixy, U., & Hessels, J. (2010). Human capital and start-up success of nascent entrepreneurs. *EIM Research Reports H*, 201013.
- Carter, N. M., Gartner, W. B., Shaver, K. G., & Gatewood, E. J. (2003). The career reasons of nascent entrepreneurs. *Journal of Business venturing*, 18(1), 13-39. [https://doi.org/10.1016/S0883-9026\(02\)00078-2](https://doi.org/10.1016/S0883-9026(02)00078-2)
- Časas, R., & Dambrauskaitė, V. (2011). Impact of external business environment factors on internationalization of Lithuanian-born global companies. *Ekonomika*, 90(3), 120-135. <http://dx.doi.org/10.15388/Ekon.2011.0.931>
- Cassar, G. (2007). Money, money, money? A longitudinal investigation of entrepreneur career reasons, growth preferences and achieved growth. *Entrepreneurship and regional development*, 19(1), 89-107. <https://doi.org/10.1080/08985620601002246>

- Castaña, M. S., Méndez, M. T., & Galindo, M. Á. (2016). Innovation, internationalization and business-growth expectations among entrepreneurs in the services sector. *Journal of Business Research*, 69(5), 1690-1695. <https://doi.org/10.1016/j.jbusres.2015.10.039>
- Chienwattanasook, K., Wattanapongphasuk, S., Prianto, A. L., & Jermstittiparsert, K. (2019). Corporate entrepreneurship and business performance of logistic companies in Indonesia. *Industrial Engineering & Management Systems*, 18(3), 541-550. <http://dx.doi.org/10.7232/iems.2019.18.3.541>
- Council on Logistics Management, mission statement, Council on Logistics Management Web Site. Retrieved from www.clm1.org/mission.html
- Deakins, D., & Whittam, G. (2000). Business start-up: theory, practice and policy. *Enterprise and Small Business Principles, Practice and Policy*, 115-131.
- Domingues, M. L., Reis, V., & Macário, R. (2015). A comprehensive framework for measuring performance in a third-party logistics provider. *Transportation Research Procedia*, 10, 662-672. <https://doi.org/10.1016/j.trpro.2015.09.020>
- Estrin, S., Korosteleva, J., & Mickiewicz, T. (2022). Schumpeterian entry: innovation, exporting, and growth aspirations of entrepreneurs. *Entrepreneurship Theory and Practice*, 46(2), 269-296. <https://doi.org/10.1177/1042258720909771>
- Gurtoo, A., & Williams, C. C. (2009). Entrepreneurship and the informal sector: some lessons from India. *The International Journal of Entrepreneurship and Innovation*, 10(1), 55-62. <http://dx.doi.org/10.5367/000000009787414280>
- Harrison, A., Skipworth, H., van Hoek, R. I., & Aitken, J. (2019). *Logistics management and strategy*. Pearson UK.
- Hessels, J., Van Gelderen, M., & Thurik, R. (2008). Entrepreneurial aspirations, motivations, and their drivers. *Small business economics*, 31, 323-339. <http://dx.doi.org/10.1007/s11187-008-9134-x>
- Janssen, F. (2003). *Determinants of SME's Employment Growth Relating to the Characteristics of the Manager*. IAG - LSM Working Papers; 03/93 (2003). <http://hdl.handle.net/2078/18220>
- Javalgi, R. R. G., & Grossman, D. A. (2016). Aspirations and entrepreneurial motivations of middle-class consumers in emerging markets: The case of India. *International Business Review*, 25(3), 657-667. <http://dx.doi.org/10.1016/j.ibusrev.2015.10.008>
- Karadeniz, E., & Özçam, A. (2010). The determinants of the growth expectations of the early-stage entrepreneurs (TEA) using the ordinal logistic model (OLM): the case of Turkey. *Economic and Business Review*, 12(1). <http://dx.doi.org/10.15458/2335-4216.1242>
- Kasilingam, R. G. (1998). *Logistics and transportation*. Great Britain: Kluwer Academic Publishers.
- Kautonen, T., & Palmroos, J. (2010). The impact of a necessity-based start-up on subsequent entrepreneurial satisfaction. *International Entrepreneurship and Management Journal*, 6(3), 285-300. <http://dx.doi.org/10.1007/s11365-008-0104-1>
- Khan, E. A., Khan, S. M., & Alam, M. N. (2005). Factors affecting the growth of entrepreneurship in small-scale business. *Business Review*, 5(1), 33-38. <http://dx.doi.org/10.35649/KUBR.2005.5.1.4>
- Krueger Jr, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of business venturing*, 15(5-6), 411-432. [https://doi.org/10.1016/S0883-9026\(98\)00033-0](https://doi.org/10.1016/S0883-9026(98)00033-0)
- Macfarland, A. C. G., Macfarland, H. G., & Thompson, R. R. (2022). Motivational factors in entrepreneurship: Theoretical Framework. In: Bhattacharjee, D., & Spence, M. T. (2022). *How mindsets influence the effects of valence of online reviews*. 3-4. (pp. 33-41). Proceedings of the 49th ACME Annual Meeting of the Association of Collegiate Marketing Educators, New Orleans, Louisiana, United States.
- Marshall, D., McCarthy, L., McGrath, P., & Claudy, M. (2015). Going above and beyond: how sustainability culture and entrepreneurial orientation drive social sustainability supply chain practice adoption. *Supply chain management*, 20(4), 434-454. <http://dx.doi.org/10.1108/SCM-08-2014-0267>
- Morris, M. H., Miyasaki, N. N., Watters, C. E., & Coombes, S. M. (2006). The dilemma of growth: Understanding venture size choices of women entrepreneurs. *Journal of small business management*, 44(2), 221-244. <http://dx.doi.org/10.1111/j.1540-627X.2006.00165.x>
- Nair, K. R. G., & Pandey, A. (2006). Characteristics of entrepreneurs: an empirical analysis. *The Journal of Entrepreneurship*, 15(1), 47-61. <https://doi.org/10.1177/097135570501500104>
- Nedeliaková, E., Sekulová, J., Nedeliak, I., & Loch, M. (2014). Methodics of identification level of service quality in railway transport. *Procedia-social and behavioral sciences*, 110, 320-329. <https://doi.org/10.1016/j.sbspro.2013.12.876>
- Negrutiu, C., Vasiliu, C., & Enache, C. (2020). Sustainable entrepreneurship in the transport and retail supply chain sector. *Journal of Risk and Financial Management*, 13(11), 267. <https://doi.org/10.3390/jrfm13110267>
- Oyelola, O. T., Ajiboshin, I. O., Raimi, L., Raheem, S., & Igwe, C. N. (2013). Entrepreneurship for sustainable economic growth in Nigeria. *Journal of sustainable development studies*, 2(2), 197-215.
- Petrović, M., & Leković, B. (2019). Characteristics of ambitious entrepreneurs in Southeast Europe region: High-growth expectation concept. *Anali ekonomskog fakulteta u Subotici*, 41, 55-66. <https://doi.org/10.5937/AnEkSub1941055P>

- Pindado, E., & Sánchez, M. (2017). Researching the entrepreneurial behaviour of new and existing ventures in European agriculture. *Small Business Economics*, 49, 421-444. <https://link.springer.com/article/10.1007/s11187-017-9837-y>
- Popkova, E. G., Sergi, B. S., Rezaei, M., & Ferraris, A. (2021). Digitalisation in transport and logistics: A roadmap for entrepreneurship in Russia. *International Journal of Technology Management*, 87(1), 7-28. <http://dx.doi.org/10.1504/IJTM.2021.118887>
- Raijman, R. (2001). Determinants of entrepreneurial intentions: Mexican immigrants in Chicago. *The Journal of Socio-Economics*, 30(5), 393-411. [https://doi.org/10.1016/S1053-5357\(01\)00101-9](https://doi.org/10.1016/S1053-5357(01)00101-9)
- Reynolds, P. D., Hay, M., & Camp, S. M. (1999). *Global entrepreneurship monitor*. Kansas City, Missouri: Kauffman Center for Entrepreneurial Leadership.
- Ronstadt, R. C. (1983, August). *Initial venture goals, age, and the decision to start an entrepreneurial career*. In Proceedings of the 43rd annual meeting of the Academy of Management (pp. 417-421).
- Ruziyev, B., & Bakhrididinova, Y. (2022). Logistics: Types Of Transport. *Scientific progress*, 3(2), 456-462.
- Sheffi, Y., & Klaus, P. (1997, October). *Logistics at large: jumping the barriers of the logistics function*. In Proceedings of the Twenty-sixth Annual Transportation and Logistics Educators Conference (No. October, pp. 1-26). The Ohio State University, Chicago, Illinois.
- Shelton, B. A., & John, D. (1996). The division of household labor. *Annual review of sociology*, 22(1), 299-322. <https://doi.org/10.1146/annurev.soc.22.1.299>
- Sousa-Zomer, T. T., & Miguel, P. A. C. (2018). Sustainable business models as an innovation strategy in the water sector: An empirical investigation of a sustainable product-service system. *Journal of Cleaner Production*, 171, S119-S129. <http://dx.doi.org/10.1016/j.jclepro.2016.07.063>
- Stam, E., Bosma, N., Van Witteloostuijn, A., De Jong, J., Bogaert, S., Edwards, N., & Jaspers, F. (2012). *Ambitious entrepreneurship. A Review of the Academic Literature and New Directions for Public Policy*. Report for the Advisory Council for Science and Technology Policy (AWT) and the Flemish Council for Science and Innovation (VRWI).
- Startiene, G., & Remeikiene, R. (2009). The influence of demographical factors on the interaction between entrepreneurship and unemployment. *Engineering Economics*, 64(4), 60-70.
- Tsai, K. H., Chang, H. C., & Peng, C. Y. (2016). Refining the linkage between perceived capability and entrepreneurial intention: Roles of perceived opportunity, fear of failure, and gender. *International Entrepreneurship and Management Journal*, 12(4), 1127-1145. <https://link.springer.com/article/10.1007/s11365-016-0383-x>
- Urban, B., & Richard, P. (2015). Perseverance among university students as an indicator of entrepreneurial intent. *South African Journal of Higher Education*, 29(5), 263-278. <http://dx.doi.org/10.20853/29-5-528>
- Vijaya, V., & Kamalanabhan, T. J. (1998). A scale to assess entrepreneurial motivation. *The Journal of Entrepreneurship*, 7(2), 183-198. <http://dx.doi.org/10.1177/097135579800700204>
- Vuković, B., Milutinović, S., Mirović, V., & Milićević, N. (2020). The profitability analysis of the logistics industry companies in the balkan countries. *Promet-Traffic&Transportation*, 32(4), 497-511. <http://dx.doi.org/10.7307/ptt.v32i4.3311>
- Zagata, L., & Sutherland, L. A. (2015). Deconstructing the 'young farmer problem in Europe': Towards a research agenda. *Journal of Rural Studies*, 38, 39-51. <https://doi.org/10.1016/j.jrurstud.2015.01.003>

DETERMINANTE PREDUZETNIKA U SEKTORU LOGISTIKE: REZULTATI ANALIZE GEM ISTRAŽIVANJA

Predmet analize ovog rada su determinante preduzetnika u ranim fazama razvoja svojih poduhvata, koji se bave logistikom u Evropi. Cilj je da se identifikuju faktori koji utiču na odluku o bavljenju preduzetničkom delatnošću u sektoru logistike. Za analizu je korišćena Global Entrepreneurship Monitor (GEM) baza podataka iz koje je filtrirano 73 806 ispitanika iz zemalja Evrope, od kojih je 192 iz sfere logistike. Statistička analiza je odrađena putem softverskog paketa za statističku analizu Stata IC 15.0. Istraživanjem su obuhvaćeni demografski faktori, faktori rasta, faktori internacionalizacije i motivacioni faktori. Demografski faktori (pol, starost, radni status) su statistički značajni za preduzetnike u oblasti logistike. Za muškarce je veća verovatnoća da budu preduzetnici u sektoru logistike. Starosne kategorije od 18 do 25 i od 45 do 54 imaju najveću verovatnoću da se bave ovim poduhvatima. Samozaposlen je dominantan radni status ovih preduzetnika. Preduzetnike u sferi logistike karakteriše očekivanje u pogledu rasta broja zaposlenih, kao i značajan procenat ostvarenog prihoda iz inostranstva. Finansijski motivatori su ti koji pokreću preduzetnike u sektoru logistike.

Ključne reči: Logistika, preduzetništvo, rast, internacionalizacija, motivacija.

CONFLICTS IN THE ORGANIZATION: HOW CAN MEDIATION AFFECT THE DEVELOPMENT OF THE ORGANIZATION?

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Abstract. *Modern organizations in conditions of globalization and high uncertainty have not only a complex development trajectory, but also face a high number of organizational conflicts (both internal and external). For the stable functioning of organizations and the creation of comfortable working conditions for their employees, it is important to implement effective methods of resolving conflict situations, such as mediation, into organizational practice. The aim of the paper is the systematization of the modern approaches to organizational conflicts and assessment of the mediation influence on organizational development on the example of the social and healthcare spheres. Also, research is devoted to identification of the main causes of conflicts in institutions of the social and healthcare, participants in conflicts, methods of their resolution. Empirical research was conducted with the involvement of 88 representatives of social and healthcare institutions from three regions of Ukraine (Dnipro, Zaporizhzhia, and Kharkiv). Within the framework of the research, the frequency and types of conflicts that arise in organizations of the social sphere and healthcare were studied. The causes of conflict situations are considered, the influence of conflicts on the development of modern organizations was determined. The key areas of work on conflict resolution and prevention were identified according to employees. The degree of awareness of employees regarding the mediation procedure was determined and the readiness for its implementation in organizations of the social sphere and healthcare was assessed.*

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Directions for further research into the impact of conflicts and mediation on the development of modern organizations are proposed.

Key words: *conflict, development, dispute resolution, mediation, organization*

JEL Classification: M12, M19

1. INTRODUCTION

Modern conditions of globalization and open markets based on fierce competition create new challenges for the success of the implementation of the development strategies of any organization, and its success depends on its ability to manage personnel. At the same time, in the process of formation and development of the personnel management system, organizations should take into account the causes and frequency of conflicts inside them: different visions, needs and interests of both individuals and organizational groups, which lead to conflicts that reduce work productivity and activity efficiency.

Papers of modern researchers of conflict management emphasize the significant role of conflicts in the organization's development, as they can have both a constructive and a destructive nature (Tjosvold et al., 2014). Resolving conflict situations is a widespread task of the head of the organization. The resolution of a conflict situation usually requires a lot of time and the development of appropriate preventive measures to avoid a recurrence of the conflict. That is, organizational conflicts cause significant resource losses, which affects the result of doing business (Munduate et al., 2022).

The destructive impact of conflict situations on the organization as a whole, on employees, and other stakeholders (De Dreu, 2008; Giebels & Janssen, 2005) confirms that the task of effective conflict management is to resolve them in a constructive way (De Dreu & Van de Vliert, 1997). The need to transform the conflict into a constructive one is confirmed by the possible negative consequences of its escalation for all participants.

In developed countries, mediation is a widely accepted effective, and flexible alternative to resolving disputes in court (a slow and time-consuming process). Research shows that this practice is gradually spreading to developing countries as well (World Bank, 2017).

The practice of commercial mediation in the USA and European countries has been actively implemented for more than 40 years. According to the World Bank's "Doing Business" report, alternative conflict resolution through voluntary mediation or conciliation is already recognized in about 174 economies of the world. In many countries, this is an existing method of resolving contractual disputes, which is combined with formal courts (Doing Business, 2019).

Business conflicts without proper management can cause many systemic problems (from the hiring process to production process, communication with external stakeholders, etc.), delaying the development of the company. Mediation strategies and methods implemented during conflict resolution provide efficiency, confidentiality, greater flexibility, saving time and financial resources, preserving autonomy, and restoring relations between the parties (if possible). This characterizes mediation as an effective tool for conflict management, including organizational ones (Souza, 2021).

Reestablishing communication between the parties through mediation is more informal, allowing them to choose a mediator, make their own decisions and take responsibility for them, form an agreement and ensure its implementation.

Organizational conflicts become more complicated and widespread both in small firms and in international corporations, from IT companies to healthcare institutions. And according to this scenario, it is necessary to understand impact of conflicts on organizations and how mediation can affect development processes in organization.

The aim of the paper is the systematization of the modern approaches to organizational conflicts and assessment of the mediation influence on organizational development on the example of healthcare sphere. Also, our research is devoted to identification of the main causes of conflicts in institutions of the social and healthcare, participants in conflicts, methods of their resolution.

The structure of the paper is represented by 5 logically connected parts. In particular, it includes an introduction, literature review, and formation of relevant research hypotheses, which consider the theoretical foundations of the impact of conflicts and mediation on organizational development. The next part of the research presents the results of the empirical research and their discussion. The final part of the work is devoted to conclusions, determination of theoretical and practical implications of the research, as well as its possible limitations.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Corporate culture and social norms usually act as a basis for building a conflict management system in an organization, and in combination form an organizational culture of conflict (Gelfand et al., 2012). Gelfand also notes the existence of several forms of conflict, including:

1. "Cooperative" conflict cultures, within which the conflict situation is resolved through cooperation - through constructive dialogue, negotiations, preparation, and implementation of joint solutions for all parties of the conflict;
2. "Dominant" cultures of the conflict, within which the main things for the parties are not understanding and solving the problem, but competition and victory;
3. "Avoidant" cultures of conflicts, within which the parties to the organizational conflict do not solve the problem, but only avoid it. Or they generally try to get out of the conflict and "freeze" the problem.

This study of conflict cultures confirmed that the development of a conflict culture based on cooperation has a positive effect on the functioning of the organization, and the formation of innovative and more productive approaches in their activities. A culture of "collaboration" recognizes that conflict is part of organizational development and is inevitable. That is why they support constructive and integrative problem-solving and dispute resolution. This, in turn, helps to optimally use the potential of conflicts for the sustainable development of the organization and prevents the destructive consequences of conflicts (Katz & Flynn, 2013). Cultures of "cooperation" are oriented towards equal support of the parties in the conflict and actively implement mediation. Necessary to note that mediation as a method of alternative conflict resolution has a wide range of applications: intra-organizational conflicts (vertical and horizontal), conflicts with suppliers, customers, state representatives, and other stakeholders. Mediators can be involved at various stages of the conflict - both in the conditions of an escalation of confrontation between the management and employees of the organization and in routine misunderstandings between colleagues (Bollen et al., 2016).

In their study, Martinelli and Almeida (2014) stated that conflicts can usually lead to the experience of frustration by one of the parties, problems in communication, and increased misunderstanding between the future parties of the conflict. McIntyre (2007) notes the problem of "hiding" conflicts in the workplace - the conflict exists, but its presence is not immediately recognized by the organization. This is due to the fact that organizations try to keep their own reputation and consider conflict as a failure and a "loss of control" over employees. There are also theories about the lack of solidarity, cooperation, and support in a team experiencing conflict. But in reality, it reveals problematic points that hinder the development of the team and the organization as a whole. Thus, many organizations avoid acknowledging conflicts because they consider it a negative business practice.

Commercial mediation and mediation in the organization are of particular interest in resolving corporate conflicts. Commercial mediation is a procedure for resolving conflicts in the field of economic relations, corporate management and between parties who are independent of each other. External independent mediators are involved in commercial mediation. Mediation in the organization is a procedure for resolving disputes in which the parties to the conflict are employees of the same organization, and the mediator can be an internal or external independent expert.

The spread of mediation in different countries of the world helps to move away from expensive, long, and often unsatisfactory court procedures. It is a non-judicial form of resolving various types of organizational conflicts (Bollen, et al., 2016). Even 30 years ago, Europe faced resistance to the introduction of mediation to resolve labor disputes and the implementation of various out-of-court strategies. This was mainly due to the strengthening of the trade union movement and the active legalization of labor relations (Rodriguez-Piñero et al., 1993). During this time, mediation has proven to be effective as a constructive way to resolve conflict and reduce the high cost of labor disputes – both at the level of the organization and at the level of individual employees (Elgoibar et al., 2019). In order to promote the further spread of mediation and the transition to a new paradigm of conflict resolution, in 2008 and 2013, the European Parliament adopted European directives on mediation, Directive 2008/52/CE and Directive 2013/11/EU. The stated objective is "to facilitate access to dispute resolution and to promote amicable settlement of disputes by encouraging the use of mediation and ensuring a balanced relationship between mediation and judicial proceedings" (Art. 1).

To spread mediation values and activate practical implementation of mediation, public and private mediation centers offering workplace mediation services were opened in European countries (Bollen & Euwema, 2013). European legal acts also regulate the inclusion of mediation in the system of managing organizational conflicts to increase the efficiency of labor relations and reduce the burden on the court system (Deakin, 2016). Mediation is being actively implemented in the USA as well - the country implements state (Bush, 2001) and private (Kressel, 2014) workplace mediation programs. Thus, mediation is spreading all over the world as one of the most flexible and effective methods of solving various types of conflicts.

Based on the above, the first research hypothesis reads:

H1: Conflicts mostly have negative impact on organizations performance.

Organizations of social sphere and healthcare face conflicts every day, because this is related to the specifics of work in the "person-person" system. In their day-to-day operations, healthcare institutions face both minor misunderstandings and major conflicts

that span the entire organization. These conflicts can lead to lawsuits and sometimes can cause violence between parties. Labor conflicts in healthcare institutions are associated with close interaction of the main stakeholders: medical staff, administrative and service staff, patients, authorities, patients' families, and other stakeholders. It is necessary to understand that in any case, conflict situations have a negative impact on patient care, reduce the efficiency of the healthcare institution and can lead to deterioration of communication, moral and psychological climate, and high staff turnover (Mechteridou & Paglamidis, 2019).

According to Lviv Mediation Center (2018), in the context of reformation and development of social and healthcare systems, it is necessary to implement more flexible and effective conflict resolution practices, based on best European and US practices. And in these spheres it is important to consider:

- The importance of social relations. The field of health care is the most delicate and concerns absolutely all people on the planet;

- The specifics of the relationship. First, medical law is a complex branch of law that includes civil, administrative, economic, labor and criminal legal relations. In particular, Article 140 of the Criminal Code of Ukraine provides for liability for non-fulfillment or improper fulfillment of professional duties by a medical or pharmaceutical worker. An interesting feature of this crime for mediation is that it is declarative. In addition, it should be taken into account that the participants in this legal relationship, namely doctors and lawyers, are mostly the most closed, cynical and emotionally detached people. Such professional deformation significantly affects the effectiveness of communication between parties to the conflicts. The use of mediation will put the person in the center of medical legal relations.

- Confidentiality as a basic principle of mediation. Thanks to this principle, mediation provides an opportunity to preserve information about the state of health, details about the course of the disease and other information that constitutes a medical secret.

Based on the above, the second research hypothesis reads:

H2: Mediation is an effective method of dispute resolution and has positive effect on organizational development on social and healthcare institutions.

3. METHODOLOGY

To analyze the impact of solving organizational conflicts on its development, it is necessary to understand possible reasons. This is aimed at identifying the causes of a possible conflict in the absence of a conflict situation through the assessment of objective and subjective conditions and factors of interaction of people in the group, the adequacy of the distribution of duties and functions, the level of social tension, trust and loyalty, the peculiarities of the psychological atmosphere.

Empirical research uses quantitative methodology. Primary data is collected by the survey method via questionnaire. Data analysis is performed using the techniques of the MS Excel program package.

Research is based on survey conducted in October - November 2021 by the employees of the Karazin Business School (V.N. Karazin Kharkiv National University) during the development of short-term study programs for the representatives of health care and social protection institutions.

Participants - representatives of health care and social protection institutions of Dnipropetrovsk, Zaporizhia and Kharkiv regions. 88 respondents took part in the survey in total.

The survey was conducted in an online format by the method of self-completion of questionnaires (Google form). The choice of such a tool for conducting a questionnaire is due to the possibility of ensuring the transparency of the process of collecting information from respondents, as well as the ease of processing and visualization of the received answers.

Among the results of the survey, it is appropriate to note:

1. According to the gender structure, the survey participants were distributed as follows: 89.8% of the survey participants were women, 10.2% were men.

2. The largest share of respondents belongs to persons aged 51-59 years (30.7%) and 31-40 years (27.3%), and the smallest - to representatives of the age category under 30 years (Fig. 1).

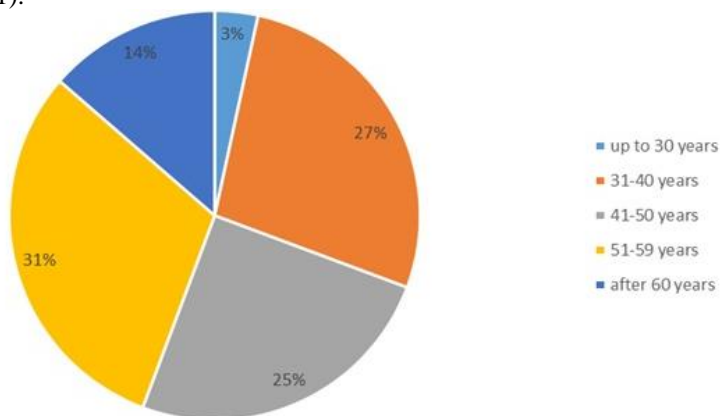


Fig. 1 Age structure of respondents, %

3. By region, the participants were distributed as follows: Dnipropetrovsk region – 48.9%, Kharkiv region – 44.3%, Zaporizhia region – 6.8% (Fig. 2).

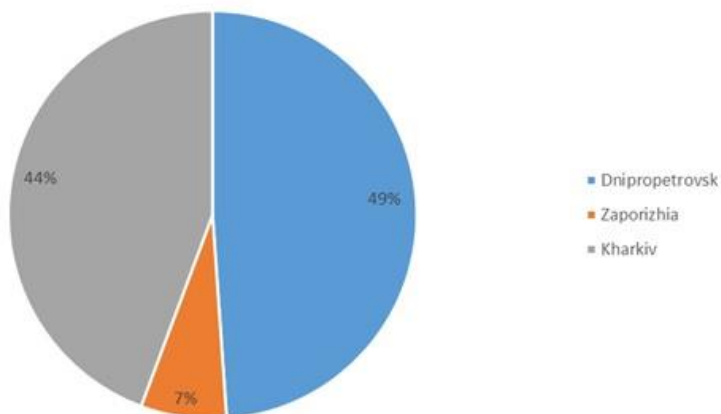


Fig. 2 Regional structure of respondents, %

4. 60.2% of respondents represent health care institutions, 39.8% - social protection institutions (Fig. 3).

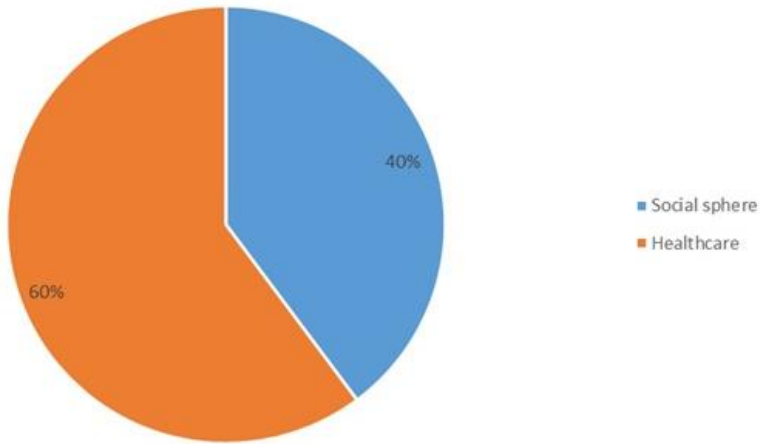


Fig. 3 Distribution of respondents by specific activity of the institution in which they work, %

The majority of survey participants represent communal (80.7%) and state (18.2%) healthcare and social welfare institutions, only 1.1% of respondents work in private institutions of the corresponding profile.

Among the participants of the survey representing healthcare institutions, representatives of managerial positions (directors, chief doctors) predominate, among the representatives of social institutions - leading specialists in social work.

Most of the survey participants have many years of work experience in institutions of the corresponding profile: more than 15 years - 51.1% of respondents, 1-5 years - 19.3%, 11-15 years - 14.8%, 6-10 years - 12.5 %, less than 1 year – 2.3%.

4. RESEARCH RESULTS AND DISCUSSION

As part of the survey, the participants provided answers regarding the nature, causes, and frequency of conflicts in their organizations. Also, the main participants of the conflicts in healthcare and social sphere organization and methods of conflict resolution were determined. Next, we will consider the obtained results in details.

The respondents emphasized that mostly, in their organizations, conflicts arise between employees and patients (clients) (51.1%), between employees (21.6%) and between employees and the owner of the institution (6.8%) (Fig. 4).

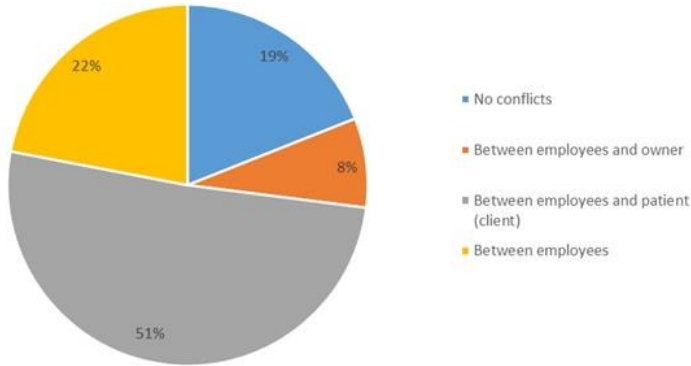


Fig. 4 Distribution of respondents' answers to the question "What type of conflicts occur more often in your organization?", %

The majority of respondents face conflicts in their professional activities several times a month (28.4%), several times a year (21.6%), once a year or less often (19.3%), several times a week (11, 4%). 5.7% of respondents noted that there are no conflicts at all in their institutions (Fig. 5).

Among the main causes of conflicts in their professional activities in the form of open answers, the respondents noted the following:

- misunderstanding, dissatisfaction of patients with the healthcare reform and the implementation of paid services;
- social tension in society, inability to listen to each other;
- intolerance to other people's opinion;
- workload;
- different interpretation of legislation;
- limited resources;
- refusal to cooperate, violation of agreements;
- aggressive attitude of people towards the healthcare field;
- innovations in the healthcare system.

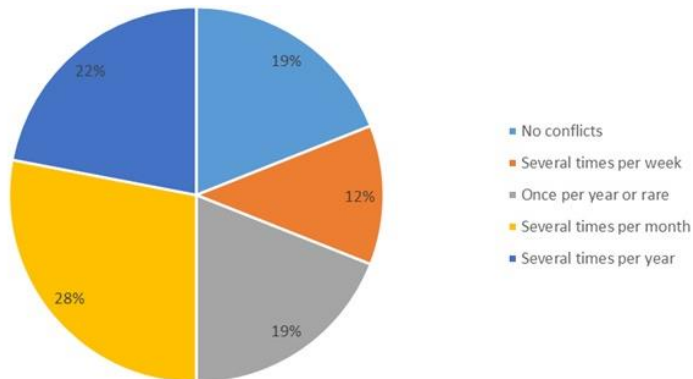


Fig. 5 Distribution of respondents' answers to the question "How often in your professional activity do you encounter conflicts?", %

Our research revealed that most of the participants note the negative impact of conflicts on the activities of their organization. Individual respondents emphasize the lack of impact of conflicts on the organization's activities, as they quickly identify and resolve them. Only one respondent sees conflicts as having a positive impact on the activities of the institution where he works, as "conflicts mobilize and mobilize the team".

Thus, the conducted analysis provides us with the confirmation from the representatives of healthcare and social organization's representatives that conflicts cause a lot of problems in their daily activity, and prevent effective development of organizations. In addition, these confirm H1 of our research: Conflicts mostly have negative impact on organizations performance.

Next part of the survey includes questions regarding conflicts resolution, and it reveals most of organizations are just trying to avoid conflict instead of finding the way to resolve it effectively. The most common way to resolve conflicts among respondents is to avoid it (68.2%) and involve a third party for an objective resolution of the conflict (Fig. 6).

If the conflict is internal, the manager (62.5%), colleague (17%), lawyer (8%) or psychologist (3.4%) of the organization where the respondent works most often acts as a "mediator" in its resolution.

According to the respondents, the most effective measures to minimize the occurrence of internal conflicts in the organizations where they work are: encouraging staff to develop positive working relationships (56.8%), conducting conflict resolution training (34.1%), providing training in communication skills (29.5%), development of powerful communication channels (14.8%).

Almost 38% of respondents met legal conflicts in their practice (when there were issues of disciplinary violations by employees, "problematic" dismissals, conflicts with patients, problems in processing appeals, conflicts with low-quality counterparties, etc.), 62.5% emphasize lack of similar experience. 8% of respondents noted that less than 5 such court cases were recorded in their institutions during the year.

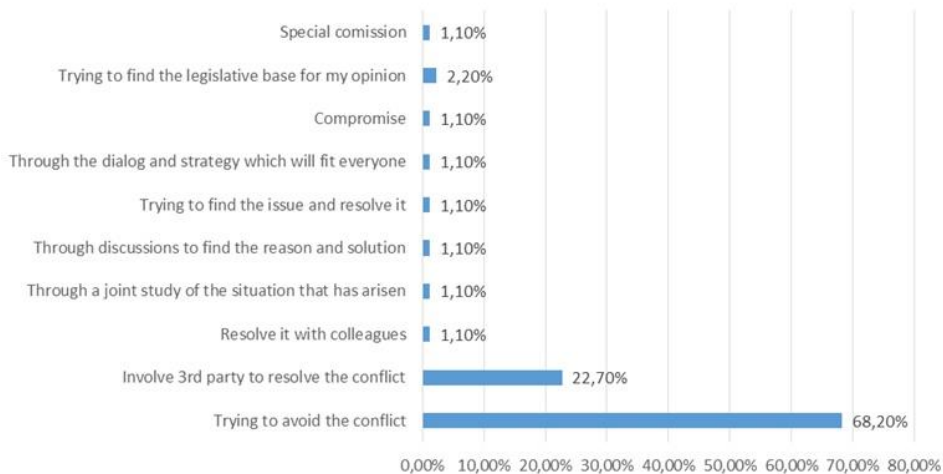


Fig. 6 Distribution of respondents' answers to the question "How do you usually resolve conflicts?", %

In this case, we can sum up that healthcare and social organization in the regions of Ukraine are trying to avoid escalation of conflicts and prefer to negotiate. But there is a lack of professional negotiations in these spheres.

As mediation is one of the most effective methods of alternative dispute resolution, it can be implemented in healthcare and social sphere conflicts too.

Mediation is the consequence of the failure to reach an agreement between two parties. The failure of negotiation has a cost both in terms of the relational capital between the parties and in terms of the psychological processes of the individuals themselves. The negotiation impasse led to a distributive spiral, where parties experience negative emotions, develop a negative perception of their counterparts, and the negotiation processes. This failure reduces self-efficacy and willingness to work together in the future, to behave less cooperatively, losing faith in negotiation as an effective means of managing conflicts (O'Connor & Arnold, 2001).

Although the conditions under which mediation arises are negative, it has proven to be a very useful conflict resolution tool in order to promote efficiency, equity, and voice in employment relations (Munduate et al., 2022).

It should be considered that almost half of the respondents are familiar with the concept of "mediation". Research participants provided the following definitions:

- "a voluntary, out-of-court, confidential, structured procedure, during which the parties, with the help of a mediator(s), try to settle the conflict (dispute) through negotiations";

- "a confidential form of dispute resolution that has nothing to do with a court hearing. It takes place with the participation of a neutral third party - a mediator, who helps the parties settle the dispute peacefully, quickly and without lengthy and sometimes expensive court proceedings";

- "conflict settlement by studying the position of the conflicting parties through a closed or open meeting in the presence of neutral persons";

- dispute settlement technology with the participation of a third (neutral) party, who is not interested in this conflict, to work out an agreement in the dispute. Sometimes this makes it possible to avoid the long duration of the conflict.

75% of respondents are convinced that mediation in Ukraine is known to a narrow circle of people, 9.1% believe that it is widespread in Ukraine, and 9.1% believe that it is completely absent.

Among the main factors that prevent the dissemination of mediation for the resolution of disputes in the social sphere and the healthcare, the respondents note:

- lack of sufficient knowledge about mediation (75%),
- lack of a normative legal act that would regulate mediation as an alternative for the resolution of disputes in the social sphere or healthcare (31.8%),
- instability of legislation (21.6%),
- lack of mutual assistance among workers in the social sphere and healthcare (11.4%).

Since mediation in Ukraine began to spread only in recent years mostly among lawyers and educators, the majority of the population (including healthcare and social workers) have limited information and experience in implementing this conflict resolution tool at the organizational level.

The majority of respondents hesitate to answer regarding the expediency of using mediation in resolving conflict situations in their organizations (54.5%). 42% are convinced that mediation would help their institutions in resolving conflicts, 3.5% of respondents have the opposite opinion (Fig. 7).

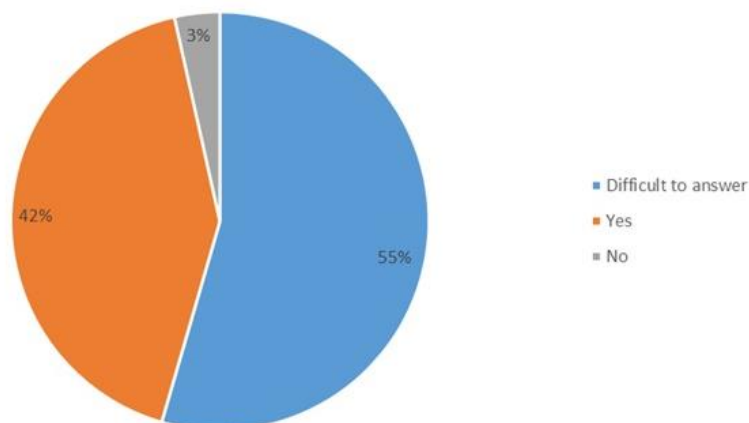


Fig. 7 Distribution of respondents' answers to the question "Do you think mediation would help you resolve conflicts?", %

The majority of respondents are convinced that it is advisable to integrate mediation into their field of activity by using mediation skills in communication by employees (76.1%), concluding a memorandum, contract with an external mediator/s (13.6%), involving a mediator as a staff unit in the institution (9.1%).

Based on the survey results, 46.6% of respondents are convinced that there is no need to involve a mediator specialist in the structure of their institution; 42% - hesitate to answer this question; 11.4% - see the expediency of this initiative. In the meantime, more than half of research participants (63.3%) feel the need to acquire knowledge of legal aspects in their work in a healthcare institution or social sphere institution; 27.3% - do not have such a need, because it is not relevant for them, 8% - do not feel the need, because they already have a professional education in this field.

To sum up, the results of the survey confirm that employees of modern organizations (in particular, the social sphere and healthcare) very often encounter conflicts. These can be both internal and external conflicts. However, all of them have an impact on the development of organizations. Moreover, if these are constructive conflicts, they can act as an impetus for development. And if the destructive ones, which only destroy intra-organizational relations, affect the efficiency of work and the image of the organization, they only stand in the way of the organization's development.

Accordingly, more than 60% of respondents stated the need for conflict resolution skills, but only 46% have an idea about the effectiveness of the implementation of mediation and other methods of alternative conflict resolution.

Thus, the H2 hypothesis regarding the significant positive impact of mediation on the development of organizations in the context of the realities of Ukraine was partially confirmed. The majority of respondents consider mediation to be an effective tool for organizational conflicts. However, they do not have enough information about the possibilities and features of its implementation in Ukraine. Especially in institutions of the social sphere and healthcare.

5. CONCLUSIONS

This research demonstrates the influence of organizational conflicts on the activities of modern organizations, especially in the social sphere and healthcare in Ukraine. The general impact of conflicts on the performance of the organization, key participants in internal and external conflicts of organizations, as well as the most common causes of conflict situations are indicated. The paper also notes the essence and advantages of mediation as an effective alternative solution to organizational conflicts.

The paper examines the results of a survey on the specifics of the occurrence and resolution of conflict situations in institutions of the social sphere and healthcare. After all, employees in these areas constantly work with people, and daily deal with conflict situations and misunderstandings, which can go through the stage of further escalation and create obstacles for the further development and effective work of the organization.

An important point is not only to determine the impact of conflicts on organizational development, but also to understand that not all methods of alternative conflict resolution are accessible and understandable to most employees of modern organizations in Ukraine. Despite the fact that the majority of respondents were familiar with the concept of mediation, there are problems with informing the public about the possibilities and advantages of using this method of conflict resolution - and this is confirmed by the results of the survey.

It should be noted that the research participants revealed the need to train employees of social and health care institutions in the skills of mediation and conflict resolution. Accordingly, further dissemination of mediation values and skills is possible through those persons who have undergone or are ready to undergo the relevant training.

The conducted research has certain limitations, from which the directions of future research arise. The first limitation refers to the small number of respondents, which is why the analysis should be repeated on a larger sample. Also, research was implemented in several regions of Ukraine and can be implemented in the whole country.

Future research may also examine the activities on mediation implementation and cover more spheres of economic activity and different organization as well as organizational conflicts.

REFERENCES

- Benitez, M., Medina, F. J., & Munduate, L. (2012). The management of relationship conflicts in service organizations. *Anales de Psicología*, 28(1), 139-149.
- Bennett, T. (2014). The role of workplace mediation: A critical assessment. *Personnel Review*, 43(5), 764-779. <https://doi.org/10.1108/pr-02-2012-0036>
- Bollen, K., & Euwema, M. (2013). Workplace mediation: An underdeveloped research area. *Negotiation Journal*, 29(3), 329-353. <https://doi.org/10.1111/nej.12028>
- Bollen, K., Euwema, M. C., & Munduate, L. (Eds.) (2016). Promoting effective workplace mediation. In K. Bollen, M. C. Euwema, & L. Munduate: *Advancing workplace mediation through integration of theory and practice* (pp. 1-20). Springer Verlag.
- Brinkert, R. (2016). An approach to conflict: Mediation and conflict coaching. In K. Bollen, M. C. Euwema, & L. Munduate: *Advancing workplace mediation through integration of theory and practice* (pp. 173-187). Springer Verlag. <https://doi.org/10.1007/978-3-319-42842-0>
- Bush, R. A. B. (2001). Handling workplace conflict: Why transformative mediation? *Hofstra Labor and Employment Law Journal*, 18(2), 367-373.
- Coleman, P. T., Kugler, K. G., & Mazzaro, K. (2016). Getting beyond win-lose and win-win: A situated model of adaptive mediation. In K. Bollen, M. C. Euwema, & L. Munduate: *Advancing workplace mediation*

- through integration of theory and practice* (pp. 21-38). Springer Verlag. <https://doi.org/10.1108/ijcma-02-2014-0012>
- De Dreu, C. K. W. (2008). The virtue and vice of workplace conflict: Food for (pessimistic) thought. *Journal of Organizational Behavior*, 29(1), 5-18. <https://doi.org/10.1002/job.474>
- De Dreu, C. K. W., & Van de Vliert, E. (Eds.). (1997). *Using conflict in organizations*. Sage.
- Deakin, R. (2016). HRM Practices and mediation: Learnt from the UK. In K. Bollen, M.C. Euwema, & L. Munduate: *Advancing workplace mediation through integration of theory and practice* (pp. 111-126). Springer Verlag. https://doi.org/10.1007/978-3-319-42842-0_7
- Directive 2013/11/EU. Retrieved from: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013L0011> Accessed on: 22.10.2023.
- Doing Business 2019. Training for Reform. A World Bank Group Flagship Report. Retrieved from: https://www.doingbusiness.org/content/dam/doingBusiness/media/AnnualReports/English/DB2019-report_web-version.pdf Accessed on: 22.10.2023.
- Elgoibar, P., Medina, F. J., Euwema, M. C., & Munduate, L. (2021). Increasing integrative negotiation in European organizations through trustworthiness and trust. *Frontiers in Psychology*, 12, Article 655448. <https://doi.org/10.3389/fpsyg.2021.655448>
- Elgoibar, P., Medina, F. J., Garcia, A., Pender, E., Euwema, M. (2019). Mediation and and conciliation in collective labour conflicts in Europe: A cross-cultural analysis. In M. C. Euwema, F. J. Medina, A. B. García, & E. Romero (Eds.), *Mediation in collective labour conflicts* (Volume 5, pp. 175-201). Springer International Publishing.
- Gelfand, M. J., Leslie, L. M., Keller, K., & De Dreu, C. K. W. (2012). Conflict cultures in organizations: How leaders shape conflict cultures and their organizational-level consequences. *Journal of Applied Psychology*, 97(6), 1131-1147. <https://doi.org/10.1037/a0029993>
- Giebels, E., & Janssen, O. (2005). Conflict stress and reduced wellbeing at work: The buffering effect of third-party help. *European Journal of Work and Organizational Psychology*, 14(2), 137-155. <https://doi.org/10.1080/13594320444000236>
- Katz, N. H., & Flynn, L. T. (2013). Understanding conflict management systems and strategies in the workplace. A pilot study. *Conflict Resolution Quarterly*, 30(4), 393-410. <https://doi.org/10.1002/crq.21070>
- Kressel, K. (2014). The mediation of conflict: Context, cognition, and practice. In M. Deutsch, P. T. Coleman, & E. Marcus (Eds.), *The handbook of conflict resolution: Theory and practice* (pp. 817-848). Jossey-Bass.
- Lviv Mediation Center (2018). Retrieved from: <https://mediation.lviv.ua>, Accessed on: 22.10.2023.
- Mediation Directive 2008/52/EC. Retrieved from: https://www.europarl.europa.eu/cmsdata/226405/EPRS_ATAG_627135_Mediation_Directive-FINAL.pdf Accessed on: 22.10.2023.
- Munduate, L., Medina, F., & Euwema, M. (2022). Mediation: Understanding a Constructive Conflict Management Tool in the Workplace. *Revista de Psicología del Trabajo y de las Organizaciones*, 38(3), 165-173. <https://doi.org/10.5093/jwop2022a20>
- Nadja, A., & Felix, S. (2017). *Making mediation law (English)*. Mediation series. World Bank Group. Washington. USA. Retrieved from: <http://documents.worldbank.org/curated/en/899611503551941578/Makingmediation-law> Accessed on: 22.10.2023.
- O'Connor, K. M., & Arnold, J. A. (2001). Distributive spirals: Negotiation impasses and the moderating role of disputant self-efficacy". *Organizational Behavior and Human Decision Processes*, 84(1), 148-76. <https://doi.org/10.1006/obhd.2000.2923>
- Souza, J. C., & Tartuce, F. (2021). Mediation in the resolution of business conflicts. *Revista Científica Multidisciplinar Núcleo do Conhecimento*, 12(06), 166-188.
- Tjosvold, D., Wong, A. S. H., & Chen, N. Y. F. (2014). Constructively managing conflicts in organizations. *The Annual Review of Organizational Psychology and Organizational Behavior*, 1, 545-568. <https://doi.org/10.1146/annurev-orgpsych-031413-091306>

KONFLIKTI U ORGANIZACIJI: KAKO MEDIJACIJA UTIČE NA RAZVOJ ORGANIZACIJE?

Moderne organizacije u uslovima globalizacije i velike nesigurnosti imaju ne samo kompleksni razvojni put, već se i suočavaju sa velikim brojem organizacionih konflikata (kako internih, tako i eksternih). Za stabilno funkcionisanje organizacija i stvaranje povoljnih uslova za rad njihovih zaposlenih, važno je implementirati efektivne metode razrešavanja konfliktnih situacija, kao što je medijacija, u praksu. Cilj rada je sistematizacija modernih pristupa organizacionim konfliktima i

odredjivanje uticaja medijacije na organizacioni razvoj na primeru organizacija iz oblasti socijalne i zdravstvene zaštite. Takođe, istraživanje je posvećeno identifikaciji glavnih uzroka konflikta u institucijama socijalne i zdravstvene zaštite, učesnicima u konfliktima, metodama njihovog razrešenja. Empirijsko istraživanje vršeno je uz učešće 88 predstavnika institucija socijalne i zdravstvene zaštite iz tri regije Ukrajine (Dnjepar, Zaporožje, Harkov). U okviru istraživanja, proučavana je učestalost i tipovi konflikata koji se javljaju u organizacijama socijalne i zdravstvene zaštite. Identifikovane su ključne oblasti rada na rezoluciji i prevenciji konflikata. Procenjen je stepen svesti zaposlenih vezano za proces medijacije i stepen spremnosti organizacija socijalne i zdravstvene zaštite da ga implementiraju. Predložene su smernice za dalja istraživanja uticaja konflikta i medijacije na razvoj modernih organizacija.




Ključne reči: konflikt, razvoj, rešavanje sukoba, medijacija, organizacija

A CHRONOLOGICAL ANALYSIS OF INFLATION DYNAMICS IN KENYA

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Abstract. *This paper undertakes an exploratory examination of inflation dynamics in Kenya between 1970 and 2021, employing a descriptive research design and secondary data from various sources, coupled with qualitative analysis of the literature. The paper comprehensively analyzes the impact of diverse policy changes, including monetary and fiscal policies. Overall, this paper provides a beneficial resource for anyone interested in comprehending the intricacies of inflation dynamics in Kenya and the relevant measures employed to manage rising prices. The government implemented various measures to fight inflation over the years, including tight monetary policy and fiscal policy measures. The Central Bank of Kenya implemented various monetary policies to control inflation, such as increasing interest rates and tightening credit. Factors such as rising food and fuel prices, droughts, and political instability have driven inflation in Kenya over the years. Despite Kenya's implementation of several reforms aiming to promote stable inflation over time, challenges regarding inflation persist. To achieve long-term economic growth and stability, it may be wise for the government to consider implementing policies that promote fiscal discipline, strengthen institutional frameworks, and encourage private sector development. By doing so, the government can ensure sustainable economic growth and stability.*

Key words: *Price Level, Inflation, Deflation, Kenya*

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I. INTRODUCTION

Understanding the dynamics of inflation is important because high inflation rates can have a detrimental effect on economic growth, leading to reduced investment, lower productivity, and increased unemployment rates (Barro, 1995). Moreover, inflation can erode the purchasing power of consumers, especially those on fixed incomes, leading to a decline in their standard of living (Machlup, 2020).

Kenya has experienced inflation challenges over the years, with fluctuations in inflation rates affecting various sectors of the economy (Youse & Debebe, 2021; Killick & Mwege, 1990; Mwege & Ndung'u, 2004; Kinyua, 2001; Durevall, 2012). The impact of inflation on the economy has been significant, with adverse effects on economic growth, investment, and poverty reduction efforts (Kinyua, 2001).

Despite various policy changes that have been implemented over the years, inflation has remained a persistent challenge in the country, with far-reaching effects on the country's economy (Youse & Debebe, 2021; Mwege & Ndung'u, 2004). For example, inflation was high during the 1970s due to macroeconomic shocks, and the government implemented price control policies that had some impacts on economic growth (Mwege & Ndung'u, 2004). In the 1980s, the government executed structural adjustment programs to promote market-oriented policies and reduce inflationary pressures. In the 1990s, inflation remained a major challenge, but the government implemented measures such as a tight monetary policy to bring it under control by the end of the decade (Youse & Debebe, 2021; Kinyua, 2001). In the early 2000s, inflation was relatively low before rising in late 2000 due to multiple factors, and the Central Bank of Kenya implemented various monetary policies to control it (Kiganda, 2014). During the 2010s, inflation continued to fluctuate, and the Central Bank of Kenya implemented monetary policies while the government implemented fiscal policies to address it (Okumu, 2021).

Given the observed changes in trends and policies, a detailed chronological analysis of the inflation dynamics in Kenya is needed because it can help identify the factors that have contributed to inflation in the country over the past few decades and the effectiveness of the various policies implemented to address this issue over time. Additionally, a chronological analysis can help identify areas where policy interventions may be needed to address current and future inflationary pressures.

Kenya's unique characteristics, including its regional context, distinct economic structure, diverse policy landscape, socio-political factors, and rich dataset, set it apart from other contexts worldwide facing long-standing inflation issues. Studying inflation dynamics in Kenya offers valuable insights into regional factors, policy responses, and the interplay of economic and socio-political dynamics, contributing to a comprehensive understanding of inflation management and providing lessons applicable to similar contexts globally.

Therefore, this paper provides a detailed review of the inflation dynamics in Kenya from 1970 to 2021, highlighting the various policy changes implemented during each period and their impact on the inflation trends in the country. By doing so, one can gain a better understanding of the factors that have contributed to inflation in Kenya and the effectiveness of the various policies that have been implemented to address this issue. Kenya was chosen as the subject of this study because of its long-standing issues with inflation.

The study aims to fill a gap in the literature by providing a comprehensive and detailed chronological review of the inflation dynamics in Kenya from 1970 to 2021,

including the various policy changes implemented during each period and their impact on the inflation trends in the country.

By shedding light on the complex and dynamic nature of inflation in Kenya, the paper provides policymakers with valuable insights on how to design and implement effective policies to mitigate inflation and promote sustainable economic growth. Furthermore, the paper contributes to the existing literature on inflation dynamics, providing a valuable resource for stakeholders interested in the subject.

Some of research questions that could be addressed based on the analysis of the study include the following: What are the key factors that have contributed to inflation dynamics in Kenya between 1970 and 2021? How have monetary and fiscal policies been employed in Kenya to manage inflation over time, and what has been their effectiveness? What role have external factors, such as macroeconomic shocks, rising food and fuel prices, and political instability, played in driving inflation in Kenya? What are the key challenges and persistent issues related to inflation management in Kenya? How have policy changes and interventions evolved over different periods, and what have been their impacts on inflation trends? What lessons can be learned from the historical inflation dynamics in Kenya to inform policy interventions and strategies for sustainable economic growth?

The rest of the paper is structured as follows: Section 2 presents the inflation dynamics in Kenya during the 1970s, including the policy landscape and inflation trends, and policy responses. Section 3 examines the inflation dynamics in Kenya during the 1980s, including the policy landscape and inflation trends. Section 4 reviews the inflation dynamics in Kenya during the 1990s, including the landscape and inflation trends. Section 5 analyses the inflation dynamics in Kenya during the 2000s, including the landscape and inflation trends. Section 6 explores the inflation dynamics in Kenya during the 2010s, including the policy landscape and inflation trends. Finally, in Section 7, the study is concluded.

2. INFLATION DYNAMICS IN KENYA DURING THE 1970S

2.1. Policy Landscape during the 1970s

The 1970s was a decade of significant policy changes, aimed at maintaining macroeconomic stability and promoting economic growth and development in Kenya (see for example Killick & Mweya, 1990; Kinyua, 2001; Kabubo-Mariara & Kiriti, 2002; Swamy, 1994). The policy changes during the period were a response to several macroeconomic imbalances, including escalating inflation, which had far-reaching effects on the economy (Bigsten, Kimuyu & Söderbom, 2010; Kabubo-Mariara & Kiriti, 2002).

In the 1970s, inflation was predominantly propelled by macroeconomic disturbances such as the disintegration of the Bretton Woods framework of fixed exchange rates in 1971, the deterioration in the terms of trade which resulted in the balance of payment crisis in 1971, the first oil shock in 1973/74, a more than fourfold increase in coffee prices from 1975 to 1977, the drought of 1979, and the second oil shock of 1979/80 (Legovini, 2002; Kinyua, 2001; Bevan, Collier, & Gunning, 1999). The collapse of the East African Community in 1977 also had a significant impact on inflation in Kenya due to the loss of a major export market, disruption of trade flows, decline in foreign investment, and a reduction in foreign exchange reserves, which led to higher import costs and inflationary pressures (Bigsten, Kimuyu & Söderbom (2010); Kabubo-Mariara & Kiriti, 2002).

To address the challenge, the Kenyan government continued with the implementation of a direct price control policy which was motivated by Session Paper No 10 on African Socialism and its Application to Planning in Kenya (Killick & Mwegu, 1990). The institutionalisation of the price control policy was effectuated through the enactment of the Price Control Ordinance of 1956, which was subsequently renamed the Price Control Act of 1956 and underwent revision in 1972 (Killick & Mwegu, 1990). According to Mwegu & Ndung'u (2004), price controls in Kenya were exercised in most of the final agricultural and manufactured commodities via the General or Specific Price Control Orders (GPCO and SPCO).

The purpose of price controls was to act as a more effective tool in achieving macroeconomic stability, with a particular emphasis on curbing inflationary pressures and protecting against potential external shocks to the balance of payments (Ndung'u, 1997). However, Mwegu & Ndung'u (2004) argue that the price controls did not achieve macroeconomic stability and instead caused distortions and the emergence of rent-seeking behaviour in the public sector. Furthermore, the controls also constrained efficient resource allocation thus hindering market development and ultimately the growth of the Kenyan economy (Mwegu & Ndung'u, 2004).

During the 1970s, the monetary policy was largely ineffective and subservient to the fiscal pressures, but it was subject to several changes in response to the shocks (Killick & Mwegu, 1990; Kinyua, 2001). According to Kinyua (2001), efforts were made to reduce lending to the import sector and foreign-owned firms by commercial banks by changing the liquidity ratio requirement and using moral suasion as an instrument. Interest rates remained under control, and moderate financial repression persisted (Killick & Mwegu, 1990).

In 1975, Kenya made a significant policy shift regarding the alignment of its currency, the Kenyan shilling. The country transitioned from aligning the exchange rate of the Kenyan shilling with the US dollar to the Special Drawing Rights (SDR) (Killick & Mwegu, 1990; Kinyua, 2001). This policy shift marked the outset of Kenya's engagement with the International Monetary Fund (IMF) in mitigating domestic and external shocks and reversing the economic trend (Kiganda, 2014).

The government also implemented various structural policies to promote local production and reduce dependence on imports (Swamy, 1994; Killick & Mwegu, 1990). This included import substitution policies aimed at promoting local production, as well as policies to promote agricultural production and rural development, to improve the livelihoods of the rural population (Kinyua, 2001). However, these policies were not entirely successful in addressing inflation (Killick & Mwegu, 1990).

The promotion of export-oriented industries in Kenya during the 1970s was a structural policy reform that also aimed at reducing inflation (Swamy, 1994). By promoting these industries, the government could earn foreign exchange, which would help to address the balance of payment challenges (Swamy, 1994). This, in turn, would reduce the pressure on the Kenyan shilling and lower inflation rates. Additionally, the establishment of export processing zones and tax incentives for exporters would lead to increased investment in the export sector, higher production, and increased foreign exchange earnings, all of which would help reduce inflation rates in the country (Swamy, 1994; Killick & Mwegu, 1990).

The policy reforms aimed at controlling inflation in Kenya during the 1970s also encompassed fiscal policies (Killick & Mwegu, 1990; Swamy, 1994). These included the rationalisation of expenditure (Swamy, 1994). By rationalizing expenditure, the government could reduce its spending, which would help reduce the budget deficit and the pressure on inflation rates (Swamy, 1994).

In 1979, a structural adjustment loan was agreed upon between Kenya and the International Monetary Fund (IMF), which introduced structural reforms aimed at restoring macroeconomic stability (Killick & Mwege, 1990). The reforms were also aimed at removing the controls on prices, trade, and credit while driving structural reforms to address the supply-side shocks (Killick & Mwege, 1990; Kinyua, 2001).

Therefore, the policy landscape in Kenya during the 1970s was marked by challenges related to inflation, which led to various policy changes aimed at promoting economic growth and development. Table 1 shows a summary of some key inflation-related policy reforms that have been implemented by Kenya during the 1970s.

Table 1 The summary of key inflation-related policy reforms in Kenya during the 1970s.

| Year | Type of Reform |
|------|---|
| 1971 | The inception of the General Price Control Order |
| 1971 | The Kenya shilling was pegged to the US dollar |
| 1972 | The Price Control Act of 1956 was revised |
| 1972 | The Price Control Advisory Committee was set up to advise on prices |
| 1973 | Wage Guidelines were introduced |
| 1975 | The Kenya Shilling was pegged to the SDR |
| 1979 | First structural adjustment loan with the IMF |

Source: Author's review of literature

2.2. Inflation Trends during the 1970s

The policy reforms implemented in Kenya between 1971 and 1979, including structural, fiscal, and monetary policy reforms as discussed in the previous section, were aimed at addressing inflation and maintaining macroeconomic stability. These policy reforms (apart from other domestic and external shocks that are likely to have affected inflation) had a direct impact on inflation trends in Kenya, which varied significantly during the period averaging 10.9 percent (World Bank, 2022). Figure 1 depicts the trends of the overall inflation rates in Kenya over the period 1970–1979.

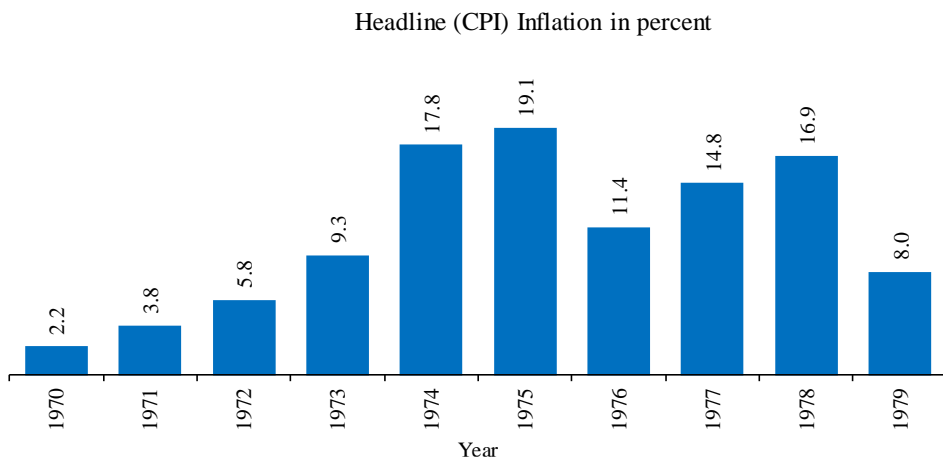


Fig. 1 Trends in Headline Inflation in Kenya from 1970 to 1979

Source: World Bank Development Indicators (2022)

As displayed in Figure 1, Kenya experienced low inflation rates during 1970, 1971 and 1972 (2.2 percent, 3.8 percent and 5.8 percent, respectively) (World Bank, 2022).

Subsequently, inflation maintained an increasing trend afterwards, reaching 9.3 percent in 1973, 17.8 percent in 1974 and a peak of 19.1 percent recorded in 1975. As alluded to in the previous section, the increase in inflation in Kenya during the period was fueled by the first global oil crisis that hit the world economies in 1973/74, poor rainfall and global recession (The Republic of Kenya, 1975; Kinyua, 2000; and Ndung'u, 2004).

The government of the time had to implement policies to mitigate the inflation rate. This was done by increasing import tariffs and sales taxes on luxury goods and petroleum products to curb consumption (Republic of Kenya, 1975). The government also raised the liquidity ratio requirement and implemented moral suasion as an instrument to guide commercial banks to reduce their lending (Republic of Kenya, 1977).

Following the implementation of the policies, inflation decreased to 11.4 percent in 1976. The decrease in inflation in 1976 is also attributed to increasing incomes in rural areas following a good rise in the value of coffee exports as a result of an increase in yield in the Agricultural sector (Republic of Kenya, 1977).

Inflation continued to remain at double digits levels of 14.8 percent and 16.9 percent in 1977 and 1978 respectively, before decreasing to a single-digit level of 8.0 percent at the end of the decade (World Bank, 2022).

As alluded to by Ndung'u & Durevall (1999), the commodity boom in the major export crops, coffee and tea that occurred in 1976/77 also helped to ease some of the economic difficulties experienced in the early 1970s.

3. INFLATION DYNAMICS IN KENYA DURING THE 1980S

3.1. Policy Landscape during the 1980s

During the 1980s, the Kenyan government continued to face challenges related to inflation and macroeconomic instability, which were inherited from the 1970s (Ndung'u, 1998; Kinyua, 2001; Killick & Mwega, 1990). The country suffered also from the effects of a global recession, decreased external capital inflows, and the aftermath of the 1982 debt crisis (Bigsten, Kimuyu & Söderbom, 2010). These factors combined to create a challenging economic environment, which required innovative policy solutions to promote growth and stability.

The inflation-related policies implemented during the 1980s in Kenya were characterized by stabilisation and structural adjustment programs aimed at promoting macroeconomic stability through market-oriented policies and reducing government intervention in the economy (Bigsten, Kimuyu & Söderbom, 2010). These policies were implemented under the guidance of the International Financial Institutions (IFIs), namely the World Bank and the International Monetary Fund (IMF) (Ndung'u, 1998). The import substitution development strategy that predominated during the 1970s was also gradually dismantled in the 1980s in favour of an export-oriented industrial policy (Ndung'u, 1998).

In 1980, Kenya secured its first Structural Adjustment Loan from the World Bank, which came with conditions that included the implementation of more liberal trade and interest rate regimes and the adoption of a more outward-oriented industrial policy (Ndung'u, 1998). Although government documents outlined a new direction towards

openness and liberalisation in Kenya's trade policy, few of these changes were adopted in practice (Kinyua, 2001; Ndung'u, 1998).

In 1982, the Kenyan government sought additional funding from the International Monetary Fund (IMF) and pledged to continue pursuing greater liberalisation. However, the government failed to fully implement the reforms it had promised (Kinyua, 2001; Ndung'u, 1998).

In 1982, Kenya revised its exchange rate strategy by implementing a crawling peg system using a composite basket of currencies from its major trading partners (Ndung'u, 1998). This change followed the previous shift from a fixed exchange rate to a crawling peg, which was a real exchange rate rule in effect (Ndung'u, 1998). The crawling peg regime made the exchange rate more flexible, which had implications for the inflation profile. Without a nominal anchor to tie prices down, the fixed exchange rate was lost, leading to changes in inflation trends (Kinyua, 2001).

During the initial half of the 1980s, notwithstanding the liberalisation rhetoric, the administration made only circumscribed endeavours to restructure the Kenyan economy (Kinyua, 2001; Killick & Mwega, 1990). The government's failure to meet the IMF credit ceilings and borrowing conditionalities resulted in the cancellation of several programs. The government was unable to fully disburse an IMF program until 1983.

Insufficient dedication to the reform process during the initial stage of economic restructuring from 1980 to 1984 led to the discontinuation of financial support from donors (Kinyua, 2001).

To demonstrate its commitment to policy reform and a clear long-term development strategy, the government drafted the Sessional Paper of 1986 on Economic Management for Renewed Growth (Kinyua, 2001). This policy document represented a significant milestone in Kenya's economic policy, as it acknowledged the government's limited role in the development process and paved the way for increased private sector participation (Bigsten, Kimuyu and Söderbom, 2010). The Sessional Paper's release resulted in a notable decrease in the number of goods subject to both general and specific orders.

The government took a further step towards promoting competition by enacting a competition law and the Restrictive Trade Practices, Monopolies and Price Control Act (Chapter 504 of the Laws of Kenya of 1988), which was published in 1988 and became operational in 1989 (Ontiti, 2012). According to this legislation, the government committed to reducing its reliance on direct price controls, and instead placed greater emphasis on competitive dynamics in the economy (Ontiti, 2012).

The Monetary policy in Kenya during the period under review relied mainly on direct measures such as credit restrictions, fixed cash and liquid asset ratios, and the establishment of minimum deposit and maximum lending rates (Swamy, 1994).

In 1989, the government implemented a wide-ranging overhaul of the financial sector, encompassing institutional and policy reforms designed to fortify the central bank's regulatory authority and liberalize interest rates (Kinyua, 2001; Killick and Mwega, 1990; Otieno, et al., 2019).

Therefore, the policy landscape in Kenya during the 1980s was marked by challenges related to inflation and macroeconomic instability inherited from the 1970s, which led to various policy changes aimed at promoting economic growth and development as pointed out by Kinyua (2001) as well as Killick & Mwega, (1990). Table 2 shows a summary of some key inflation-related policy reforms that have been implemented by Kenya during the 1980s.

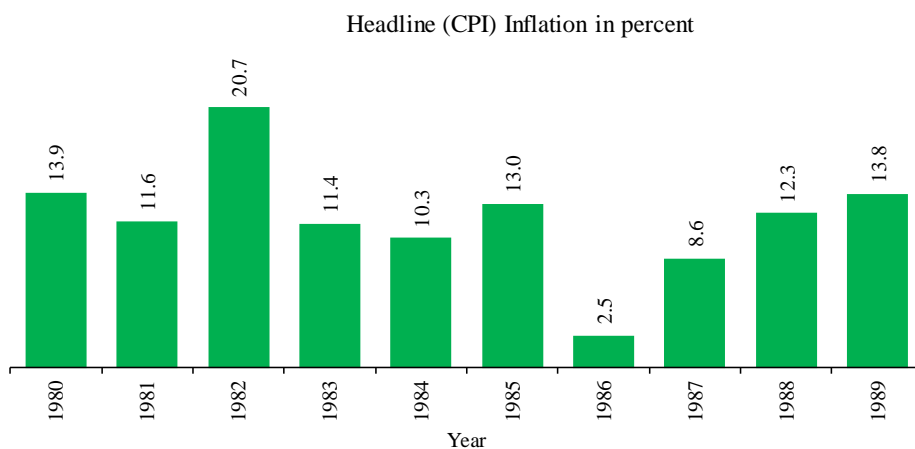
Table 2 The summary of key inflation-related policy reforms in Kenya during the 1980s.

| Year | Type of Reform |
|------|---|
| 1980 | First Structural Adjustment Program (1980-1984) under the auspice of the World Bank |
| 1980 | Session Paper No 4 of 1980 on Economic Prospects and Policies |
| 1982 | A crawling exchange rate was adopted, the shilling pegged to a basket of currencies |
| 1982 | Import licences introduced |
| 1985 | Budget Rationalisation Program (BRP) was introduced aimed at cutting government expenditure and introducing the forward budgeting exercise. |
| 1986 | The new Structural Adjustment Programs (SAPs) (1985-1991) are integrated into the macroeconomic management policies. |
| 1988 | Introduction of competition law and the Restrictive Trade Practices, Monopolies and Price Control Act |
| 1989 | The government enacted a comprehensive reform of the financial sector, addressing both institutional and policy reforms aimed at strengthening the regulatory powers of the central bank and liberalizing interest rates. |

Source: Author's review of literature

3.2. Inflation Trends during the 1980s

The policy reforms implemented between 1980 and 1989, in addition to other internal and external perturbations that may have influenced inflation, had a direct bearing on inflation trends in Kenya during this period, which fluctuated markedly, averaging at a rate of 11.8 percent which is higher than an average of 10.9 attained during the 1970s (World Bank, 2022). Figure 2 depicts the trends of the overall inflation rates in Kenya over the period 1980–1999.

**Fig. 2** Trends in Headline Inflation in Kenya from 1980 to 1989

Source: World Bank Development Indicators (2022)

As can be seen in Figure 2, the rate of inflation slowed from 13.9 percent in 1980 to 11.6 percent in 1981 (World Bank, 2022).

In 1982, inflation accelerated to 20.7 percent which was attributed to an increase in sales tax introduced during 1982, a sharp increase in food prices caused by high transportation costs and an increase in fuel prices following the oil price shock coupled with an attempted military

coup in the country. Killick & Mwega (1990) posit that the high inflation experienced in 1982 resulted in a decline in investor confidence, leading to a reduction in investment and some capital flight. This, in turn, led to a worsening in terms of trade.

The government responded by introducing a deflationary monetary policy in 1983 which saw the inflation decline steadily to 10.3 percent in 1984 from 11.4 percent recorded in 1983 (World Bank, 2022).

Inflation declined significantly to 2.5 percent in 1986 in response to the Budget rationalisation that was introduced in 1985 aimed at cutting government expenditure (Kinyua, 2001). Low inflation in 1986 was also a result of the second coffee price boom of 1986 which led to an appreciation of the exchange rate (Kinyua, 2001).

The period between 1986 and 1989 saw inflation maintaining an upward trajectory, reaching 13.8 percent in 1989 (World Bank, 2022). The trend was attributable to the expansion of the domestic credit and the money supply as well as the widening fiscal deficit as alluded to by Kinyua (2001).

4. INFLATION DYNAMICS IN KENYA DURING THE 1990S

4.1. Policy Landscape during the 1990s

In the 1990s, Kenya continued with the implementation of market-based policies to tackle inflation whereby the government deregulated the prices of goods, liberalized interest rates, and gradually relaxed foreign exchange controls.

Reforms during this period were mainly guided by Sessional Paper No. 1 of 1992 on development and employment in Kenya. The paper laid out a comprehensive economic and social development strategy for the 1990s, which included policies aimed at controlling inflation (Mwega & Ndung'u, 2004). The paper emphasized the need for market-oriented policies and private sector development, which were intended to create a competitive environment that would help to control inflation (Mwega & Ndung'u, 2004). Additionally, the paper called for reforms in the public sector, including improving efficiency, reducing corruption, and enhancing accountability, which was also aimed at reducing inflationary pressures (Mwega & Ndung'u, 2004).

However, the country failed to meet the basic requirements for successful economic reforms due to the increasing inflationary pressures and worsening economic conditions (Ngugi, 2001). Kenya was caught in a stagnation-instability trap in the early 1990s, which many other African countries had already experienced (Ngugi, 2001). The poor performance of the agricultural sector, which was a significant component of the Kenyan economy, led to a slowdown in the manufacturing sector's performance, macroeconomic imbalances, and urban unemployment that persisted since the 1980s (Mwega & Ndung'u, 2004). These challenges obstructed Kenya's efforts to control inflation through policy reforms as highlighted by Ngugi (2001) and Otieno, et al., 2019.

To address the challenges, Kenya implemented major economic and public sector (financial and expenditure) reforms throughout the 1990s. However, as pointed out earlier, the country failed to meet the basic prerequisites for successful economic reforms due to increasing inflationary pressures and deteriorating economic conditions (IMF, 2021; 2010; Bigsten et al., 2010).

The government introduced Export Processing Zones (EPZs) in 1990, followed by a change in the exchange rate regime to a dual exchange rate policy that tracked both the

official exchange rate and the rate available in the market (IMF, 2021; 2010; Bigsten et al., 2010). Under the dual exchange rate policy, the market rate was operated based on Foreign Exchange Bearer Certificates. During the same year, Kenya deregulated lending-related fees, and interest rates were deregulated afterwards in 1991.

In 1991, foreign donors cut off program aid to Kenya due to their dissatisfaction with the country's economic reform program and the government's anti-democratic stance, leading to a major economic and political crisis in the early 1990s (Ngugi & Kabubo, 1998). This crisis was a significant setback in Kenya's efforts to stabilize the economy and reduce inflation through policy reforms (IMF, 2021; 2010; Bigsten et al., 2010).

In the context of Kenya's inflation policy, it is worth noting that ethnic conflicts broke out in rural areas in 1991 and 1992, which were primarily focused on land issues in the Rift Valley (Ngugi & Kabubo, 1998). The conflicts escalated into serious violence, and similar incidents occurred both before and after the multi-party elections of 1997 (Ngugi & Kabubo, 1998). These conflicts in rural areas further complicated the challenges faced by the government in implementing successful inflation control measures, highlighting the need for a holistic approach to economic and social development that considers the underlying causes of conflict (IMF, 2021; 2010; Bigsten et al., 2010). The political transition from a single party to a multi-party system in 1992 also destabilized the economy by creating uncertainties (Ngugi & Kabubo, 1998).

Leading up to the general elections in late 1992, the regulatory environment relaxed considerably, leading to an influx of money and inflation rising considerably in 1993 (Mwega & Ndung'u, 2004). The government responded by issuing large quantities of Treasury bills, which eased inflationary pressures but resulted in high-interest rates that discouraged private investment and restrained consumer spending, limiting the expansion of the economy (Mwega & Ndung'u, 2004).

In 1993, Kenya's efforts to control inflation included the adoption of a floating exchange rate system that allowed its currency to move freely (Mwega & Ndung'u, 2004). Before implementing this measure, Kenya had significantly devalued its shilling. The move to a floating exchange rate system was intended to help stabilize the economy and reduce inflation (Bigsten, Kimuyu & Söderbom, 2010).

As a result of policy reversal guided by the Sessional Paper No. 1 of 1992, only petroleum products and some pharmaceutical products were administered under the general order whereas, in the specific order, only 3 items remained administered by September 1993. The price and movement of maize, as well as petroleum/oil products, were entirely liberalized by 1995.

As part of Kenya's inflation control policy reforms, the Central Bank of Kenya (CBK) Act underwent significant amendments in 1996 to improve the effectiveness of the monetary policy in terms of independence on the use of instruments, operational autonomy as well as the clear provision of accountability and transparency (Ndung'u, 1997). These amendments also expanded the scope of the central bank's ability to mobilize funds, making it a primary source of monetary reserves (Mwega & Ndung'u, 2004). The CBK operates within a Monetary Policy Programming Framework (MPF) which includes setting an upper limit and floor for net foreign assets (NFA) reserves (Ndung'u, 1997). This framework served as a cornerstone of Kenya's monetary strategy for controlling inflation until the introduction of the Central Bank Rate (CBR). In 1993, Kenya also introduced repurchase agreements (repos) for implementing monetary policy (Central Bank of Kenya, 1994).

After 1996, according to Bigsten, Kimuyu & Söderbom (2010), Kenya underwent major economic and public sector reforms aimed at stabilizing the economy and reducing inflation. According to Bigsten, Kimuyu, & Söderbom (2010), the structural reforms were implemented as a result of the international creditor community's efforts to ease debt repayment responsibilities and the government's attempt to revive the economy. The reforms included an enhanced international balance of payment support, improved financial management and accountability in the public sector through the establishment of the medium-term expenditure framework, and productivity improvements in most economic sectors (Bigsten, Kimuyu & Söderbom, 2010). As a result, the country achieved a significant economic recovery and a decrease in inflation rates. This final phase of inflation control policy reforms in Kenya has laid a strong foundation for further economic growth and development in the country (IMF, 2021; 2010; Bigsten et al., 2010).

Thus, Kenya's inflation-related policy reforms in the 1990s were aimed at stabilizing the economy, reducing inflation, and promoting growth in a market-based policy landscape. Despite the challenges faced in policy implementation during this period, Kenya made significant progress in reducing inflation levels and stabilizing the economy towards the end of the decade, paving the way for further economic growth and development. Table 3 shows a chronology of some key inflation-related policy reforms that have been implemented by Kenya since the 1990s.

Table 3 The summary of key inflation-related policy reforms in Kenya during the 1990s.

| Year | Type of Reform |
|------|--|
| 1990 | Introduction of Export processing zones (EPZs). Removal of controls over the lending-related fees Introduction of dual exchange rate policy Introduction of VAT which replaced sales tax |
| 1991 | Interest rates deregulation Tax exemption abolished The first step in the liberalisation of the Foreign Exchange Market by the introduction of Foreign Exchange Bearer Certificates, known as Forex Cs |
| 1992 | Sessional Paper No. 1 of 1992 on development and employment in Kenya. |
| 1993 | Export taxes abolished Liberalisation of the exchange rate and decontrol of imports and foreign exchange transactions |
| 1995 | Foreign exchange bureau de Change permitted Exchange Control Act abolished Kenya Revenue Authority (KRA) was established Devaluation of the Kenyan Shilling Restrictions on capital flows were abolished |
| 1996 | Full liberalisation of interest rates CBK Act was amended in 1996 to allow the CBK greater operational autonomy in the conduct of monetary policy. |
| 1998 | Medium-Term Expenditure Framework (MTEF) introduced |

Source: Author's review of literature

4.2. Inflation Trends during the 1990s

Kenya's inflation performance deteriorated considerably during the period from 1990 to 1999 compared with the period from 1980 to 1989. Inflation increased to an average of 17.4 percent compared with an average of 11.8 percent attained in the previous decade

(World Bank, 2022). Figures 3 depict the trends of the overall inflation rates in Kenya over the period 1990–1999.

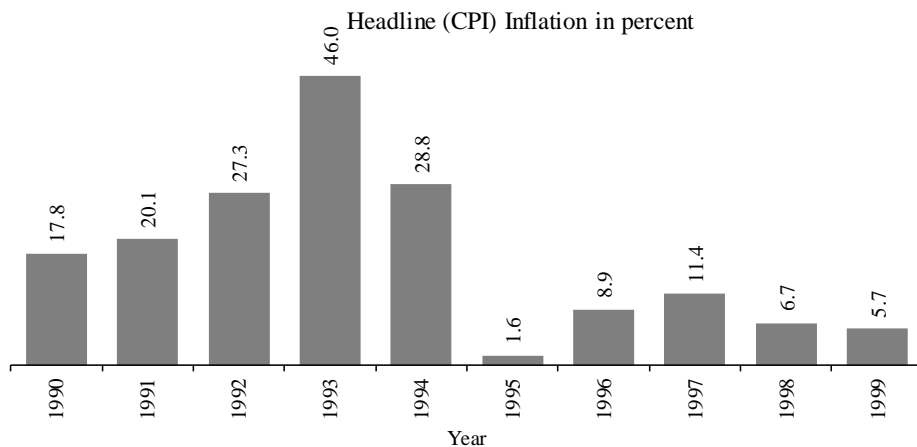


Fig. 3 Trends in Headline Inflation in Kenya from 1990 to 1999

Source: World Bank Development Indicators (2022)

As depicted in Figure 3, inflation in Kenya maintained an increased trend from 1990 towards 1993 reaching a record high of 46.0 percent during 1993 (World Bank, 2022).

According to The Republic of Kenya (1994), the high rate of inflation in 1993 was a result of economic mismanagement and other factors such as the excessive money supply in 1992 and early 1993, depreciation of the Kenyan shilling, low aggregate demand, and low investor confidence due to turbulence surrounding the shift to plural politics. In addition, supply shocks, such as prolonged drought that negatively affected agricultural output, further contributed to the problem. The prolonged drought also forced the government to divert a large chunk of funds to famine relief imports to achieve food security (The Republic of Kenya, 1993).

The inflationary pressures experienced by Kenya in 1993 were also attributed to ethnic conflicts in rural areas that were centred on land issues in the Rift Valley (The Republic of Kenya, 1993). This challenge persisted both before and after the multi-party elections of 1997, underscoring the deep-seated problems that arose as a result of the country's economic struggles during this time (The Republic of Kenya, 1993).

There was a significant reduction in inflation from 46.0 percent in 1993 to 28.8 percent in 1994 and 1.6 percent, the lowest level achieved in 1995 (World Bank, 2022). Several factors were responsible for this development, including an appreciation of the Kenya shilling, favourable climatic conditions, a decrease in import duty, and a surge of foreign exchange arising from substantial private capital inflows (The Republic of Kenya, 1996).

In 1996, the inflation rate experienced a surge to 8.9 percent, which was followed by a further increase to 11.4 percent in 1997 (World Bank, 2022). This development was primarily caused by El-Nino rains in 1997 that adversely impacted food production and the erosion of business confidence (The Republic of Kenya, 1998). These factors were further exacerbated by the resurgence of political violence in the lead-up to the 1997 elections, which contributed to the overall instability in the economy (The Republic of Kenya, 1998).

5. INFLATION DYNAMICS IN KENYA DURING THE 2000S

5.1. Policy Landscape during the 2000s

Between 2000 and 2009, Kenya executed a series of policy reforms that aimed to counteract macroeconomic challenges experienced over the preceding thirty years, including high inflation. The policy landscape during this period was affected by the ratification of the East African Community (EAC) in 2000 and the launching of the customs union in 2005 (Sseruyange, 2022). The EAC was designed to address inflation through monetary policy coordination and harmonisation of fiscal policies among the member states, while at the same time promoting regional integration and cooperation (Sseruyange, 2022).

While at the same time promoting regional integration and cooperation (Sseruyange, 2022).

The Government that has been elected in December 2002 made economic recovery a top priority on its policy agenda to turn around decades of sluggish and stagnant economic growth that has caused harm to the quality of life for Kenyans (Tyce, 2020).

Following a largely unsuccessful structural adjustment reform process in the previous regimes, the Government launched in June 2003 its Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC) for 2003-07 (Alia & Njeru, 2005; Ondieki 2005). The ERSWEC focused on tackling the key macroeconomic challenges facing Kenya (including inflation) and establishing a foundation for robust economic growth, job creation, and reduction of poverty (Alia & Njeru, 2005; Ondieki 2005).

The Medium-Term Plan (MTP) was implemented as a continuation of the ERSWEC and constitutes the first phase of the implementation of Kenya Vision 2030 (Ong'era, & Musili, 2019). The plan includes policies and strategies aimed at addressing inflation and macroeconomic vulnerabilities, as well as laying the groundwork for strong economic and employment growth and poverty reduction (Ong'era, & Musili, 2019).

The Financial Management Information Systems (FMIS) that was introduced in 2003 has several benefits in inflation control, including effective planning and budget allocation, reduction in wasteful expenditures, and enhanced financial reporting and accountability (Diamond & Khemani, 2005).

The removal of controls on lending rates in 2004 allowed market forces to determine the lending rates, leading to increased competition among banks and improved access to credit. This move also had implications for inflation control, as it allowed for interest rates to fluctuate in response to market conditions, potentially leading to higher or lower inflation rates depending on the prevailing economic conditions.

During this era, Kenya's policy environment also witnessed the implementation of the Central Bank Rate (CBR) in 2006, which was mandated by Section 36(4) of the CBK Act. The CBR was utilized to convey the position of monetary policy. The CBR is for example defined as the lowest rate at which the CBK charges on loans it extends to commercial banks as the lender of last resort. Before the introduction of the CBR, the bank rate was 3 percent above the Treasury bill rate which was in use since 2000.

As part of efforts to control inflation, the government launched a comprehensive Public Financial Management Reform Program in 2006 (Ong'era, & Musili, 2019; Tyce, 2020). By improving financial management and accountability, the government was able to reduce wasteful spending and ensure that budgetary allocations were directed towards priority areas, thereby contributing to inflation control (Tyce, 2020).

Table 4 shows a chronology of some key inflation-related policy reforms that have been implemented by Kenya since the 2000s.

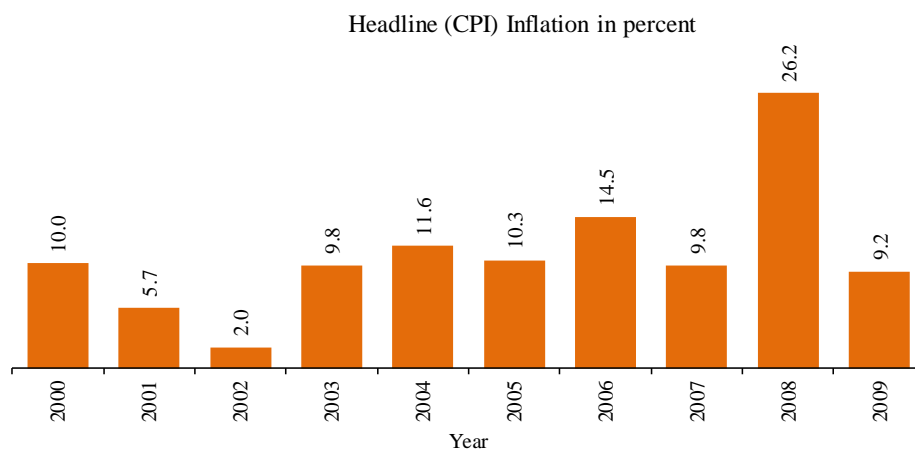
Table 4 The summary of key inflation-related policy reforms in Kenya during the 2000s.

| Year | Type of Reform |
|---------|---|
| 2000 | The Treaty for the establishment of the East African Community enters into force |
| 2001 | Issuance of Poverty Reduction Strategy Paper (PRSP) |
| 2001/02 | Implementation of MTEF |
| 2003 | Poverty Reduction and Growth Facility (PRGF) approved by an IMF Executive Board Financial Management Information Systems (FMIS) was introduced Formulation of the Medium-term Debt Management Strategy (MTDS) Economic Recovery Plan |
| 2004 | Introduction of the Economic Recovery Strategy for Wealth and Employment Creation (ERSWEC) which covers (2003-2007) Revenue Administration Reform and Modernisation Programme (RARMP) |
| 2005 | The launch of the EAC Custom Union |
| 2006 | The government launched a comprehensive Public Financial Management Reform Program (PFMR) Central Bank Rate (CBR), was introduced, under Section 36(4) of the CBK Act, to signal the stance of monetary policy. |
| 2007 | The formation of the Monetary Policy Committee (MPC). Vision 2030 launched as the successor to the ERSWEC |
| 2008 | First Medium-Term Plan (2008-2012) |

Source: Author's review of literature

5.2. Inflation Trends during the 2000s

Kenya's inflation performance improved considerably during the period from 2000 to 2009 compared with the period from 1990 to 1999. Inflation averaged 10.9 percent compared with an average of 17.4 percent attained in the previous decade (World Bank, 2022). Figure 4 depicts the trends of the overall inflation rates in Kenya over the period 2000–2009.

**Fig. 4** Trends in Headline Inflation in Kenya from 2000 to 2009

Source: World Bank Development Indicators (2022)

As illustrated in Figure 4, inflation rose to 10.0 percent in 2000 from the 5.7 percent recorded in 1999 (World Bank, 2022). The primary factors that contributed significantly to the high inflation rate in 2000 were the elevated fuel and power costs resulting from the substantial hike in international crude oil prices, the depreciation of the shilling, and the escalation in food prices due to scarcities generated by severe drought conditions (Central Bank of Kenya, 2000).

Afterwards, headline inflation decreased significantly and reached 5.7 percent in 2001 (World Bank, 2022). This was credited to the sustained implementation of a suitable monetary policy, an adequate food supply resulting from increased food crop production and favourable weather conditions, a substantial decrease in the international prices of crude oil, and the relative stability of the shilling exchange rate (Central Bank of Kenya, 2002).

In 2002, the inflation rate declined to its lowest of 2.0 percent during the 2000s (World Bank, 2022). This was credited to the continued implementation of monetary policy, stability of the shilling exchange rate, decline in food prices, decreased demand for imports, stable international oil prices, and investor confidence resulting from a new government that took office through a peaceful and democratic transition (Central Bank of Kenya, 2003).

According to data from the World Bank (2022), inflation surged to 9.8 percent in 2003. In response, the Government undertook a fiscal consolidation program to curb the budget deficit by minimizing government expenditure and augmenting revenue collection (Central Bank of Kenya, 2004).

The trajectory of inflation persisted in an upward trajectory, culminating in a peak of 14.5 percent in 2006 (World Bank, 2022). This was caused by a significant surge in food and fuel prices attributable to the negative impact of drought and subsequent floods on food production and a sharp rise in world oil prices (Central Bank of Kenya, 2007).

After favourable weather conditions and the appreciation of the Kenyan shilling in 2007, the inflation rate experienced a reduction to 9.8 percent (World Bank, 2022). Nevertheless, this was a transient phenomenon as the post-election violence and high international oil prices amidst global economic turbulence that transpired in 2008 resulted in an inflation rate escalation to 26.2 percent in the same year. High inflation in 2008 resulted also from the depreciation of the Kenya shilling due to the post-election violence that rocked the country during that period (Central Bank of Kenya, 2008).

After the post-election crisis, the country underwent a gradual recovery that led to a reduction in inflation rates to 9.2 percent in 2009 (World Bank, 2022).

6. INFLATION DYNAMICS IN KENYA FROM THE 2010S TO 2021

6.1. Policy Landscape from 2010 to 2021

Kenya has experienced a series of overlapping domestic, regional and global economic events that shaped the policy landscape and trends of macroeconomic variables from 2010 to 2021. These include the enactment of the new constitution in 2010, the agreement on East African Monetary Union Protocol agreed upon in 2013, the Covid-19 pandemic of 2019, uncertainty attributed to British exit from EU membership, effects of escalation of the US-China trade tensions and the ongoing Russia-Ukraine conflict (Sseruyange, 2022).

The 2010 constitution of Kenya introduced various provisions to promote good governance and accountability, which are deemed essential for maintaining macroeconomic stability (Tyce, 2020). The Commission on Revenue Allocation (CRA) and the Office of the

Controller of Budget was established to allocate revenue between national and county governments and ensure that public funds are utilized per the law, promoting transparency and fiscal responsibility (Tyce, 2020). Despite not directly contributing to inflation control, these institutions play a pivotal role in maintaining macroeconomic stability.

The Public Financial Management Act of 2012, which was signed into law on July 23rd of that year, aims to enhance transparency and accountability in the management of public finances at both the national and county government levels (Ong'era, & Musili, 2019). This legislation is an essential component of the government's efforts to maintain macroeconomic stability and control inflation, as it helps to ensure that public resources are allocated efficiently and effectively (Ong'era, & Musili, 2019). By promoting good governance and fiscal responsibility, the PFM Act 2012 plays a critical role in reducing inflationary pressures and maintaining macroeconomic stability in Kenya (Tyce, 2020).

The establishment of the National Treasury as the sole custodian of public funds in 2013, aimed to enhance transparency and accountability in financial management in Kenya (Tyce, 2020). This provided a framework for effective management of public resources, which was essential for reducing inflationary pressures and maintaining macroeconomic stability (Tyce, 2020). By promoting good governance and fiscal responsibility, the National Treasury played a critical role in the government's efforts to control inflation and maintain macroeconomic stability (Tyce, 2020).

In 2015, the Kenyan government engaged in negotiations with the International Monetary Fund (IMF) to secure precautionary program support aimed at mitigating the potential impact of exogenous shocks. The SBA/SCF Performance Criteria for the monetary program are monitored via the observance of the Monetary Policy Consultation Clause (MPCC), which defines an inflation band of ± 2.5 percent from the medium-term inflation target of 5 percent and a profile for the accumulation of Net International Reserves (NIR) (Central Bank of Kenya, 2016).

In 2016, the Kenyan government's commitment to a market-based economy was weakened by the introduction of the interest rate capping law. The law aimed to decrease the cost of borrowing, increase access to credit, and enhance savings returns. However, it had the opposite effect (Ng'ang'a, 2017). The law led to reduced credit growth, hindered financial inclusion, weakened bank profitability and tax revenues, and increased the risks related to financial stability (Ng'ang'a, 2017). As a result, it weakened the effectiveness of monetary policy and eventually harmed the economy. Interest rate caps have also harmed the signaling effects of monetary policy (Ng'ang'a, 2017).

The year 2019/20 in Kenya commenced with optimistic domestic economic growth prospects, supported by macroeconomic stability, recovery in agriculture, the resilient performance of service-oriented sectors, and a resurgent manufacturing sector. However, during the second half of the year, the global economy was dealt a severe shock due to the coronavirus (COVID-19) pandemic. As countries implemented stringent measures to control the spread of the pandemic, businesses were forced to shut down, trade and supply chains were severely disrupted, and global travel came to a standstill.

The Kenyan government acted quickly to prevent the pandemic from becoming a health and economic crisis by establishing five committees to deal with the pandemic before the first COVID-19 case was reported in Kenya. To mitigate the adverse effects of the pandemic, fiscal policy measures were implemented to cushion households and businesses, and the Central Bank of Kenya (CBK) adopted an accommodative monetary policy to support economic activity (Central Bank of Kenya, 2022). Emergency banking sector measures were also introduced by the CBK to mitigate the adverse impact of the

pandemic on the sector and businesses (Central Bank of Kenya, 2022). Additional measures were agreed upon with money transfer service operators and commercial banks to promote the use of digital transactions instead of cash. Internally, protocols were rolled out to protect staff, including alternative working arrangements (Central Bank of Kenya, 2022). Table 5 shows a chronology of some key inflation-related policy reforms that have been implemented by Kenya from 2010 to 2021.

Table 5 The summary of key inflation-related policy reforms in Kenya from 2010 to 2021.

| Year | Type of Reform |
|------|---|
| 2010 | The new Constitution of Kenya |
| 2011 | Kenya moved to adopt short-term interest rates as the main operational target while retaining the monetary targeting framework. |
| 2012 | The Public Financial Management Act 2012 was signed into law |
| 2013 | Protocol for the Establishment of the EAC Monetary Union signed |
| 2014 | To facilitate safe and efficient cross-border payments, the Central Bank of Kenya jointly with other East African Community (EAC) Partner States Central Banks launched the East African Payments System (EAPS) |
| 2015 | Stand-By Arrangement (SBA) and the Stand-By Credit Facility (SCF), became effective |
| 2016 | The implementation of the Interest Rate Capping Law |
| 2017 | The Development of the Big Four Agenda |
| 2018 | Second Medium-Term Plan (MTP II) was developed |

Source: Author's review of literature

6.2. Inflation Trends from 2010 to 2021

Inflation and inflationary pressures remained largely contained below the EAC convergence criteria of 8 percent since 2010, with rates consistently hovering around the single digits except in 2011. Between 2010 and 2021, Kenya experienced an average inflation rate of 6.9 percent compared with an average of 10.9 percent attained during the 2000-2010 period (World Bank, 2022). This stability can be attributed to a combination of domestic and external factors. Figure 5 depicts the trends of the overall inflation rates in Kenya over the period 2010–2021.

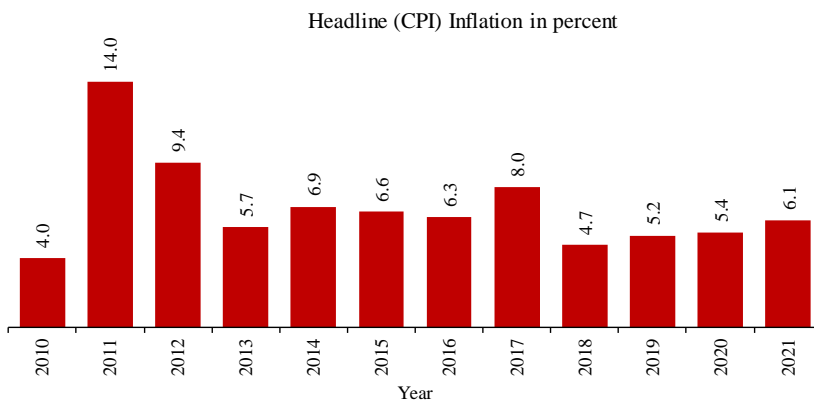


Fig 5 Trends in Headline Inflation in Kenya from 2010 to 2021

Source: World Bank Development Indicators (2022)

As illustrated in Figure 5, in 2011, inflation rates spiked to 14.0 percent from 4.0 percent recorded in 2010 mostly due to supply-side factors related to food and fuel (World Bank, 2022). The overall increase in food prices can be attributed to limited food production during the year up to June 2011, resulting from drought conditions and unfavourable distribution of rainfall. Similarly, domestic fuel prices increased in line with the rise in global oil prices (Central Bank of Kenya, 2012; Okumu, 2021).

After the inflation spike in 2011, the Central Bank of Kenya (CBK) adopted a tight monetary policy stance (Central Bank of Kenya, 2012). This involved raising the Central Bank Rate (CBR) and increasing the cash reserve ratio (CRR) for commercial banks (Central Bank of Kenya, 2012). Additionally, the CBK collaborated with the government to address supply-side factors that were exacerbating inflation, such as investing in infrastructure to improve transportation and distribution and increasing food production (Central Bank of Kenya, 2012).

The Central Bank of Kenya's (CBK) efforts proved effective as inflation rates declined to 9.4 percent in 2012 (World Bank, 2022). During the period between 2012 and 2016, inflation remained below the government's target of 7.5 percent.

In 2017, inflation rose to 8.0 percent due to political instability following the general election and a prolonged drought that adversely affected the agricultural sector, as reported by the Central Bank of Kenya (2018) and the World Bank (2022).

According to Okumu (2021), World Bank (2022) and Central Bank of Kenya (2022), inflation between 2018 and 2021 was mostly contained below the East African Community's (EAC) convergence criteria of 8 percent, due to sluggish global demand caused by the Covid-19 pandemic, low energy and fuel prices, and a relatively stable exchange rate.

7. CONCLUSION

The study was undertaken to provide a thorough analysis of the dynamics of inflation in the Kenyan economy over a 50-year period, contributing to ongoing discussions and providing valuable insights for policymakers, researchers, and the general public. Kenya was deemed an interesting case due to significant fluctuations in inflation rates over the years, along with a variety of policy reforms that were implemented to address inflation, providing an opportunity to study the effectiveness of these measures in managing inflation. To achieve this objective, a comprehensive analysis of the Kenyan inflation regime was conducted, which involved a critical examination of inflation-related policy reforms and trends.

The Kenyan economy has faced numerous challenges in terms of inflation over the past few decades. The country has implemented a series of reforms aimed at addressing macroeconomic challenges and promoting sustainable growth, including improvements in public financial management, the introduction of monetary policy tools, and the promotion of regional integration. These reforms have contributed significantly to the stabilisation of the economy and the reduction of inflationary pressures. However, despite some success in inflation management and macroeconomic stability, the country continues to face challenges related to food security, political instability, and external shocks, which have the potential to undermine its macroeconomic stability. As such, the government may consider implementing policies that promote fiscal discipline, strengthen institutions, and encourage private sector development to ensure sustainable economic growth and stability.

The historical analysis underscores the persistent nature of inflation challenges in Kenya, indicating that inflation management will remain a crucial concern in the future. To address future inflation challenges, policymakers should adopt proactive measures. This could involve maintaining a vigilant monetary policy that adjusts interest rates and credit availability in response to inflationary pressures. Additionally, fiscal discipline should be prioritized to prevent excessive spending and budget deficits, which can contribute to inflationary pressures. Strengthening resilience and diversifying the economy are also important steps to mitigate the impact of external factors on inflation. This may include investing in agricultural productivity, promoting energy diversification, and implementing measures to enhance political stability. By reducing dependency on specific sectors and addressing vulnerabilities, the economy can better withstand external shocks and minimize inflationary pressures.

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REFERENCES

- Barro, R.J. (1997). *Determinants of economic growth: A cross-country empirical study*. The MIT Press, Massachusetts Institute of Technology.
- Bigsten, A., Kimuyu, P. and Söderbom, M. (2010). *The manufacturing sector. Kenya: Policies for Prosperity*. Oxford. Oxford University Press.
- Central Bank of Kenya. (2000). *Annual report 1999/00*, Nairobi. Central Bank of Kenya.
- Central Bank of Kenya. (2002). *Annual report 2001/02*, Nairobi. Central Bank of Kenya.
- Central Bank of Kenya. (2003). *Annual report 2002/03*, Nairobi. Central Bank of Kenya.
- Central Bank of Kenya. (2004). *Annual report 2003/04*, Nairobi. Central Bank of Kenya.
- Central Bank of Kenya. (2007). *Annual report 2006/07*, Nairobi. Central Bank of Kenya.
- Central Bank of Kenya. (2008). *Annual report 2007/08*, Nairobi. Central Bank of Kenya.
- Central Bank of Kenya. (2012). *Annual report 2011/12*, Nairobi. Central Bank of Kenya.
- Central Bank of Kenya. (2016). *Annual report 2015/16*, Nairobi. Central Bank of Kenya.
- Central Bank of Kenya. (2018). *Annual report 2017/18*, Nairobi. Central Bank of Kenya.
- Central Bank of Kenya. 2022. *Annual report 2021/22*, Nairobi. Central Bank of Kenya.
- Diamond, J. and Khemani, P. (2005). *Introducing financial management information systems in developing countries*. Available at SSRN 888065.
- Durevall, D. & Ndung'u, NS. (1999). *A dynamic model of inflation for Kenya, 1974–1996*. IMF Working Paper 99/77. International Monetary Fund, Washington, D.C.
- Durevall, D. & Sjö, B. (2012). *The dynamics of inflation in Ethiopia and Kenya*. African Development Bank Group.
- Kabubo-Mariara, J. & Kiriti, T.W., (2002). *Structural Adjustment. Poverty and Economic Growth: An Analysis for Kenya*.
- Kiganda, E. O. (2014). Relationship between inflation and money supply in Kenya. *Journal of Social Economics*, 2(2), 63-83.
- Kinyua, JK. (2001). Monetary Policy in Kenya: Evolution and Current Framework. *Central Bank of Kenya Papers*.
- Legovini, A. (2002). *Kenya: Macro Economic Evolution Since Independence*. Retrieved on 2011-4-12 at <http://ebookbrowse.com/kenya-macro-economic-evolution-since-independence-doc-d28496277>
- Machlup, F. (2020). Another view of cost-push and demand-pull inflation. In *Economic Semantics* (pp. 241-268). Routledge.
- Mwega, F. M., & Killick, T. (1990). Monetary Policy in Kenya, 1967-88. *Eastern Africa Economic Review*, 6(2), 117-142.
- Mwega, FM. & Ndung'u, NS. 2004. *Explaining African economic growth performance: The case of Kenya*.
- Ndung'u, N. (1998). Dynamic impact of external debt accumulation on private investment and growth in Africa. *Economic Commission for Africa*.
- Ndung'u, N. S. (1997). Price and exchange rate dynamics in Kenya: an empirical investigation (1970-1993). *Research paper/African Economic Research Consortium*; 58.

- Ng'ang'a, AK. (2017). *The impact of interest rate capping on the financial performance of commercial banks in Kenya* (Doctoral dissertation, University of Nairobi).
- Ngugi, R. W. (2001). *An empirical analysis of interest rate spread in Kenya*.
- Ngugi, R. W., & Kabubo, J. W. (1998). *Financial sector reforms and interest rate liberalisation: The Kenya experience*. AERC, Nairobi, KE.
- Okumu, I. M. (2021). *Macro-Economic Effects of COVID-19 on the EAC Economies*.
- Ong'era, A., & Musili, B. M. (2019). *Public Sector Reforms in Kenya: Challenges and Opportunities*. Kenya Institute for Public Policy Research and Analysis.
- Ontiti, KM. (2012). *Legal regulation of the prices of petroleum products* (Doctoral dissertation, University of Nairobi).
- Otieno, D. A., Ngugi, R. W., & Muriu, P. W. (2019). The impact of inflation rate on stock market returns: evidence from Kenya. *Journal of Economics and Finance*, 43, 73-90. <https://doi.org/10.1007/s12197-018-9430-5>
- Republic of Kenya (1975) *Economic Survey*. Nairobi. The Republic of Kenya.
- Republic of Kenya (1977) *Economic Survey*. Nairobi. The Republic of Kenya.
- Republic of Kenya (1993) *Economic Survey*. Nairobi. The Republic of Kenya.
- Republic of Kenya (1994) *Economic Survey*. Nairobi. The Republic of Kenya.
- Republic of Kenya (1996) *Economic Survey*. Nairobi. The Republic of Kenya.
- Republic of Kenya (1998) *Economic Survey*. Nairobi. The Republic of Kenya.
- Sseruyange, J. (2022). *Facts and Prospects of Monetary Union in East Africa*. In *Monetary and Financial Systems in Africa: Integration and Economic Performance* (pp. 169-184). Cham: Springer International Publishing.
- Swamy, G. (1994). *Kenya: structural adjustment in the 1980s* (Vol. 1238). World Bank Publications.
- Tyce, M. (2020). *The Kenyan National Treasury: A 'pocket of effectiveness' curtailed*. *Pockets of Effectiveness* Working Paper No. 8. Manchester, UK: The University of Manchester. Available at www.effective-states.org
- World Bank. (2022). *World Development Indicators (WDI)*. Washington: The World Bank Group.
- Youse, A. & Debebe, S. (2021). Dynamics of inflation and its impact on economic growth in selected East African Countries: Ethiopia, Sudan and Kenya. *Journal of African Studies and Development*, 13(1), 1-8. <https://doi.org/10.5897/JASD2020.0596>

HRONOLOŠKA ANALIZA DINAMIKE INFLACIJE U KENIJI

Ovaj rad se bavi istraživačkim ispitivanjem dinamike inflacije u Keniji od 1970 do 2021 godine, koristeći deskriptivno istraživanje i sekundarne podatke iz različitih izvoora, dopunjene kvalitativnom analizom literature. Rad detaljno istražuje uticaj različitih promena politike, uključujući monetarnu i fiskalnu politiku. Sveukupno, rad predstavlja koristan izvor za svakog ko je zainteresovan da prouči svu zamršenost inflacione dinamike u Keniji i relevantne mere koje su preduzete za upravljanje rastućim cenama. Vlada je primenila različite mere za borbu protiv inflacije tokom godina, uključujući strogu monetarnu politiku i mere fiskalne politike. Centralna banka Kenije je primenila različite monetarne politike da bi kontrolisala inflaciju, kao što su povećanje kamatnih stopa i pooštavanje kredita. Faktori kao što su rastuće cene hrane i goriva, suše, i politička nestabilnost uticali su na inflaciju u Keniji tokom godina. Uprkos tome što je Kenija implementirala nekoliko reformi usmerenih na stabilizaciju inflacije tokom godina, izazovi vezani za inflaciju ostaju. Da bi se postigao dugoročni ekonomski rast i stabilnost, bilo bi dobro da vlada razmotri implementaciju politika koje promovišu fiskalnu disciplinu, jačaju inštitucionalni okvir, i podržavaju razvoj privatnog sektora. Time bi vlada obezbedila održivi ekonomski razvoj i stabilnost.

Ključne reči: nivo cena, inflacija, deflacija, Kenija

**INVESTIGATING FINANCIAL FRAUDS
IN THE MODERN LANDSCAPE:
A FORENSIC ACCOUNTING PERSPECTIVE
IN THE COVID-19 ERA**

UDC 343.983:657.632

616.98:578.834


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Abstract. *This paper explores the evolving landscape of forensic accounting, particularly in the context of changing financial frauds and the challenges posed by the COVID-19 pandemic. The progression of financial fraud over time, driven by technological advancements and shifting business environments, highlights the necessity for adaptive and innovative approaches to fraud detection and prevention. Advanced methodologies, including data analytics, digital forensics, and artificial intelligence, have empowered forensic accountants to confront increasingly sophisticated fraud schemes. The examination of frauds arising from the pandemic underscores the resilience of fraudsters in exploiting vulnerabilities during crises. This paper underscores the importance of forensic accounting in upholding financial integrity, ethical standards, and business resilience. It calls for continuous research, innovation, and vigilance in the field of forensic accounting to counter emerging fraud schemes and evolving business landscapes.*

Key words: *Forensic Accounting, Financial Frauds, COVID-19, Fraud Detection, Prevention, Ethical Standards.*

JEL Classification: M42, M48, G21, G28, O17.

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I. INTRODUCTION

Forensic accounting has emerged as a critical discipline that plays a pivotal role in detecting and investigating financial irregularities, including fraud, misappropriation, and other financial crimes. This specialized field combines accounting, auditing, investigative skills, and legal knowledge to uncover hidden financial information and provide evidence for legal proceedings. Forensic accountants serve as financial detectives, meticulously analyzing financial records, transactions, and patterns to unveil instances of financial misconduct. Their work extends beyond traditional accounting practices, addressing complex financial disputes and legal issues. In today's rapidly evolving business landscape, the role of forensic accounting has gained even greater importance, as financial crimes have become increasingly sophisticated and technology-driven.

The outbreak of the COVID-19 pandemic in late 2019 marked an unprecedented global crisis that swiftly impacted various aspects of society, including the business world. The pandemic introduced new challenges that businesses had to navigate, including disruptions to operations, changes in consumer behavior, and economic uncertainties. Alongside these challenges, the pandemic has also provided fertile ground for opportunistic individuals and organized groups to perpetrate financial frauds and scams. The unique circumstances created by the pandemic, such as remote working arrangements and increased reliance on digital transactions, have created vulnerabilities that fraudsters have sought to exploit.

e circumstances created by the pandemic, such as remote working arrangements and increased reliance on digital transactions, have created vulnerabilities that fraudsters have sought to exploit.

The COVID-19 pandemic has highlighted the need for a comprehensive understanding of how financial frauds have evolved in response to the changing business environment. Traditional methods of detecting and preventing financial misconduct may prove inadequate in addressing the new forms of fraud that have emerged during the pandemic. This paper aims to shed light on the intersections of forensic accounting and the COVID-19 pandemic, exploring how forensic accountants can identify, prevent, and address financial fraud in the current dynamic landscape.

al fraud in the current dynamic landscape.

This paper is structured to provide a comprehensive exploration of the role of forensic accounting in uncovering and mitigating financial fraud, particularly in the context of the COVID-19 pandemic. In the subsequent sections, we delve into the intricacies of forensic accounting, its methodologies, and the skills required by forensic accountants to effectively tackle emerging financial fraud challenges. We then shift our focus to the evolving landscape brought about by the pandemic, discussing the various ways in which financial frauds have adapted to exploit new opportunities.

ays in which financial frauds have adapted to exploit new opportunities.

The paper proceeds to examine case studies that exemplify instances of financial fraud that have occurred during the COVID-19 pandemic. These case studies offer real-world insights into the tactics employed by fraudsters and the role of forensic accounting in identifying and preventing such fraudulent activities. Finally, we discuss the implications of these findings for businesses, regulators, and practitioners, emphasizing the importance of proactive measures to safeguard financial integrity in these challenging times.

lenging times.

Through this exploration, we aim to contribute to the growing body of knowledge on forensic accounting's significance in detecting and mitigating financial frauds, while offering insights into the modern challenges posed by the COVID-19 pandemic.

2. EVOLUTION OF FINANCIAL FRAUDS

Financial frauds have undergone a transformation over time, adapting to changing circumstances and technological advancements. As technology evolves, so do the methods employed by fraudsters to exploit vulnerabilities and deceive individuals and organizations. This section explores the progression of financial fraud, and the influence of technological innovations on fraudulent techniques, and provides case studies illustrating notable instances of financial fraud. "Fraudulent behavior could cause adverse effects including: 1) jeopardizing the reliability and quality of the financial reporting process; 2) diminishing public confidence in the accounting and audit profession; and 3) compromising the efficiency of the capital market" (Wang, Ma, & Chen, 2023, p. 1).

Financial frauds have not remained stagnant; they have evolved in response to changes in technology, regulations, and the business environment. In the past, frauds were often straightforward, involving basic manipulation of financial documents or assets. In other words, "In practice, financial statement fraud might involve: (1) manipulation of financial records, (2) intentional omission of events, transactions, accounts, or other significant information from which financial statements are prepared, or (3) misapplication of accounting principles, policies, and procedures used to measure, recognize, report, and disclose business transactions" (Zhou & Kapoor, 2011, p. 570). However, as technology advanced, fraudsters became more sophisticated, employing complex schemes that exploit the intricacies of modern financial systems. The digital age has introduced new avenues for fraud, such as online scams, identity theft, and cyberattacks, demonstrating the dynamic nature of financial fraud (Sun et al, 2023).

Technological advancements have significantly impacted the methods used by fraudsters to carry out their activities. The internet and digital platforms have provided opportunities for fraud on a global scale, enabling criminals to target victims remotely. Cybercriminals utilize tactics such as phishing emails, malware, and ransomware to gain unauthorized access to sensitive financial information. Additionally, advancements in data analytics and artificial intelligence have allowed fraudsters to exploit vulnerabilities more effectively, making it essential for countermeasures to keep pace with these developments (Johnson et al., 2019). In addition, a machine learning technique (Brown, Crowely & Elliott, 2020) or language-based tools (Purda & Skillicorn, 2015) can be a useful tool for predicting intentional misreporting.

Examining real-world case studies offers insights into the diversity and complexity of financial fraud. One such case is the Enron scandal of the early 2000s, where executives manipulated financial statements to hide debt and inflate profits, ultimately leading to the company's bankruptcy. Another example is the Bernie Madoff Ponzi scheme, one of the largest investment frauds in history. Madoff promised high returns to investors, using incoming investments to pay off earlier ones instead. These cases underscore the significance of forensic accounting in uncovering such fraudulent activities and holding wrongdoers accountable.

3. FORENSIC ACCOUNTING TECHNIQUES AND TOOLS

In the realm of combating financial fraud, forensic accounting has emerged as a critical discipline. This section delves into various methodologies, tools, and techniques employed in forensic accounting, shedding light on their significance in uncovering fraudulent activities.

Forensic accounting methodologies encompass a range of approaches designed to identify, investigate, and prevent financial irregularities. These methodologies combine accounting principles, investigative techniques, and legal procedures to meticulously analyze financial records and transactions (Wells, 2014). Forensic accountants meticulously examine financial statements, transaction histories, and other relevant documents to detect anomalies that may indicate fraudulent activities.

In the digital age, data analytics and digital forensics have emerged as powerful tools in the forensic accounting toolkit. With the vast amount of digital data generated and stored by organizations, these techniques enable forensic accountants to analyze large datasets efficiently (Jain & Lamba, 2020; Ngai et al., 2011). Digital forensics involves the examination of electronic devices and data trails to uncover evidence of financial misconduct, such as altered records or unauthorized access.

Artificial intelligence (AI) and machine learning (ML) have revolutionized fraud detection by enhancing the speed and accuracy of analysis. AI-driven algorithms can identify patterns and anomalies in data that may go unnoticed by human investigators (Cao, 2020). Machine learning models continuously learn from data, allowing them to adapt to new and evolving fraud tactics, making them valuable tools in the fight against financial fraud. Innovative operations research methodology can also be a useful fraud detection tool (Bernard et al., 2022).

Financial statement analysis is a fundamental aspect of forensic accounting, enabling professionals to assess the accuracy and integrity of financial reports. By scrutinizing financial statements, forensic accountants can uncover discrepancies, irregularities, and potential signs of fraud (Okereafor, 2022). This process involves assessing key financial ratios, identifying inconsistencies, and cross-referencing data from various sources to ensure the accuracy of reported financial information.

4. COVID-19 AND FRAUDULENT ACTIVITIES

The unprecedented global disruption caused by the COVID-19 pandemic has not only posed health challenges but has also created fertile ground for fraudulent activities. This section delves into the emergence of new fraud schemes during the pandemic, the surge in cybercrimes and online fraud, the manipulation of financial statements prompted by economic uncertainty, and presents case studies that highlight the various facets of COVID-19-related frauds.

The COVID-19 pandemic has provided fraudsters with novel opportunities to exploit fear and uncertainty. As Dohrer and Mayes (2020) point out “COVID-19 presents a veritable “perfect storm” for fraud risk”. Frauds related to fake medical supplies, counterfeit personal protective equipment (PPE), and fraudulent investment schemes promising pandemic-related profits have surfaced (Andrei, 2021). Criminals have capitalized on the chaos to launch phishing attacks, capitalizing on people's search for information and assistance.

As remote work and online activities surged due to lockdowns and social distancing measures, cybercrimes and online fraud witnessed a substantial upswing. Cybercriminals targeted individuals and organizations with COVID-19-themed phishing emails, malware, and ransomware attacks (Dake, 2023). The abrupt shift to remote operations exposed vulnerabilities that fraudsters exploited to compromise sensitive financial information.

The economic turbulence resulting from the pandemic prompted some entities to resort to fraudulent financial reporting. Companies faced with declining revenues and financial distress might manipulate their financial statements to present a rosier financial picture, deceiving stakeholders, and investors. Such manipulations can include understating liabilities, inflating revenues, or concealing losses to create an illusion of stability.

Real-world examples of COVID-19-related frauds underscore the diversity of fraudulent activities that have emerged during the pandemic. The case of a cybercriminal exploiting fears of COVID-19 through phishing attacks, and instances of individuals peddling fake vaccines online serve as cautionary tales (Okerefor, 2022). These case studies highlight the need for heightened vigilance and proactive measures to counteract the surge in fraudulent activities triggered by the pandemic.

Some authors point out that the development of crowdfunding platforms creates opportunities for fraudsters to hide their identities or funding histories, thereby increasing the incentive to commit fraud. The COVID-19 pandemic and resulting economic shutdown also have disrupted relative demands and organizational capital in ways that will likely increase the incidence of fraud over the next couple of years (Karpoff, 2021).

5. COVID-19 AND FORENSIC ACCOUNTING CHALLENGES

The COVID-19 pandemic has not only reshaped societies and economies but has also necessitated a transformation in the realm of forensic accounting. This section examines the challenges confronted by forensic accountants in this new era, the utilization of technology for remote investigations, and the vital collaboration between forensic accountants and cybersecurity experts to combat the evolving landscape of fraudulent activities.

Forensic accountants faced a variety of obstacles due to the disruptions caused by the pandemic. Working remotely presented challenges in terms of accessing physical documents and collaborating with colleagues. Limited access to on-site data hindered their ability to perform comprehensive investigations, and economic uncertainties intensified the complexity of detecting financial irregularities.

In response to the pandemic's constraints, forensic accountants have harnessed technology to conduct remote investigations. Advanced data analytics tools have enabled professionals to sift through vast volumes of data efficiently, identifying potential anomalies and patterns (Hossain, 2023). Remote data collection techniques, including secure online data transfers, have become integral in maintaining investigative momentum in a socially distant environment.

The convergence of financial fraud and cybercrimes demands seamless collaboration between forensic accountants and cybersecurity experts. Cyber-forensic tools are instrumental in tracing digital footprints left by cybercriminals (Peecher et al., 2007). Effective teamwork ensures that the full spectrum of fraudulent activities, spanning financial manipulations to digital breaches, is accurately identified, investigated, and mitigated.

6. ADAPTING FORENSIC ACCOUNTING PRACTICES IN A PANDEMIC ERA

The emergence of the COVID-19 pandemic brought about unprecedented challenges and disruptions across various sectors, including forensic accounting. This section delves into the unique challenges confronted by forensic accountants during the pandemic, the innovative utilization of technology for conducting remote investigations, and the crucial significance of collaboration between forensic accountants and cybersecurity experts in navigating the evolving landscape of fraudulent activities.

The pandemic brought forth a fresh set of challenges for forensic accountants, fundamentally changing the way they traditionally conducted their work. Remote work arrangements and restricted physical access to business locations created obstacles in the collection and analysis of evidence. Additionally, the economic uncertainties resulting from the pandemic added complexity to financial analyses. These challenges required forensic accountants to adapt their methods for uncovering and addressing fraudulent activities within a remote and unpredictable environment.

activities within a remote and unpredictable environment.

In response to the limitations posed by the pandemic, forensic accountants turned to technology as a powerful ally. Advanced data analytics tools, digital forensics techniques, and remote data collection methodologies emerged as essential components of their toolkit. These technologies facilitated the examination of digital records, identification of irregularities, and detection of patterns that might indicate fraudulent behaviors (Hossain, 2023). The shift towards remote investigations not only enabled the continuation of critical work but also showcased the adaptability of forensic accounting practices.

As the boundary between financial fraud and cybercrimes blurs, collaboration between forensic accountants and cybersecurity experts has become imperative. Cyber-forensic tools play a pivotal role in tracing digital trails left by cybercriminals. The combined expertise of forensic accountants and cybersecurity professionals ensures a comprehensive examination of both financial manipulations and digital breaches, leading to a more holistic understanding of fraudulent activities and more effective strategies for prevention and mitigation (Peecher et al., 2007).

As the field of forensic accounting continues to evolve, new trends are shaping the landscape of fraud detection, prevention, and investigation. This section explores emerging developments that are expected to define the future of forensic accounting, including the integration of predictive analytics in fraud prevention, the growing emphasis on ethical considerations, and the role of forensic accountants in fostering business resilience.

Technological advancements, especially in the fields of data analytics and machine learning, are opening the door for the incorporation of predictive analytics into forensic accounting. Through the analysis of historical data and the recognition of patterns, predictive models can anticipate potentially fraudulent activities. This empowers organizations to take proactive steps in preventing fraud before it happens. This trend is revolutionizing the way forensic accountants approach fraud prevention, shifting the focus from reactive investigations to proactive risk mitigation. A lot of authors think that Industrial Revolution 4.0 rises together with the sophisticated technologies that would give a big change and impact automation in lots of fields, especially accounting forensics (Deniswara et al., 2022).

Ethical considerations have long been fundamental to the field of forensic accounting, but their importance is growing more prominent in today's intricate business landscape. Forensic accountants bear the responsibility not only to detect financial misconduct but

also to uphold ethical norms throughout their investigations. This involves addressing ethical dilemmas, preserving objectivity, and guaranteeing the impartiality of their conclusions. As fraudulent schemes become more complex, maintaining ethical principles is crucial for safeguarding the integrity of the profession.

In an era marked by uncertainties and disruptions, forensic accountants are increasingly assuming a vital role in enhancing business resilience. By proactively identifying vulnerabilities and weaknesses within financial systems, forensic accountants contribute to the formulation of strategies that bolster organizations' ability to withstand unforeseen challenges. Their insights not only help in preventing and detecting fraud, but also in optimizing risk management strategies and fortifying the overall financial health of organizations.

7. CONCLUSION

This paper has provided an insightful exploration into the dynamic world of forensic accounting, particularly in the context of evolving financial frauds and the unprecedented challenges posed by the COVID-19 pandemic. The evolution of financial frauds over time, driven by technological advancements and changing business landscapes, underscores the need for adaptive and innovative approaches to fraud detection and prevention.

The role of forensic accountants has never been more crucial in uncovering fraudulent activities and ensuring financial transparency. The adoption of advanced methodologies, such as data analytics, digital forensics, and artificial intelligence, has equipped forensic accountants with powerful tools to tackle the increasingly sophisticated nature of fraud schemes. Furthermore, the examination of frauds emerging from the pandemic has shed light on the resilience of fraudsters in exploiting vulnerabilities during times of crisis.

It is imperative to recognize the significance of forensic accounting in safeguarding financial integrity, maintaining ethical standards, and bolstering business resilience. As businesses and individuals navigate the complexities of a rapidly evolving financial landscape, the role of forensic accountants remains pivotal in mitigating risks and upholding trust.

In light of the ever-changing tactics of fraudsters and the continual advancements in technology, this paper calls for continued research, innovation, and vigilance in the field of forensic accounting. As new fraud schemes emerge and the business environment continues to evolve, the role of forensic accountants must adapt and expand, underscoring the need for ongoing education, training, and collaboration across various disciplines.

Ultimately, the field of forensic accounting stands as a guardian of financial integrity, offering an essential shield against fraudulent activities. By embracing the challenges of the modern era and leveraging technological advancements, forensic accountants can continue to play a vital role in ensuring the transparency, accountability, and sustainability of financial systems.

REFERENCES

- Andrei, D. (2021). *The impact of the Covid-19 pandemic on Romania's business environment* (MPRA Paper No. 109944). University Library of Munich, Germany. Retrieved from: <https://mpra.ub.uni-muenchen.de/109944/>
- Bernard, P., De Freitas, E. M. N., & Maillet, B. B. (2022). A financial fraud detection indicator for investors: an IDEA. *Annals of Operations Research*, 313, 809-832. <https://doi.org/10.1007/s10479-019-03360-6>
- Brown, N. C., Crowely, R. M., & Elliott, W. B. (2020). What are You Saying? Using Topic to Detect Financial Misreporting. *Journal of Accounting Research*, 58(1), 237-291. <https://doi.org/10.1111/1475-679X.12294>

- Cao, L. (2020, July 10). *AI in Finance: A Review*. Retrieved from SSRN: <https://ssrn.com/abstract=3647625> or <http://dx.doi.org/10.2139/ssrn.3647625>
- Dake, D. K. (2023, March). Online Recruitment Fraud Detection: A Machine Learning-based Model for Ghanaian Job Websites. *International Journal of Computer Applications*, 184(51), 20-28. <https://doi.org/10.5120/ijca2023922639>
- Deniswara, K., Mulyawan, A. N., Kesuma, J. T., & Martantji, B. S. (2022). Reimagining a New Transformation of Digital Forensic Accounting: Strategic Analysis of the Use of Big Data Analytics in the Covid-19 Pandemic Era as an Opportunity for the Industries in Indonesia. In: *DSDE '22: 2022 the 5th International Conference on Data Storage and Data Engineering*. February 2022 (pp.44-49). <https://doi.org/10.1145/3528114.3528122>
- Dohrer, B., & Mayes, C. (2020). 4 key COVID-19 audit risks for 2020 year ends. *Journal of Accountancy*, June 5, 2020. Available at: <https://www.journalofaccountancy.com/news/2020/jun/key-coronavirus-audit-risks-for-2020-year-ends.html>
- Hossain, M. Z. (2023, May 16). *Emerging Trends in Forensic Accounting: Data Analytics, Cyber Forensic Accounting, Cryptocurrencies, and Blockchain Technology for Fraud Investigation and Prevention*. Retrieved from SSRN: <https://ssrn.com/abstract=4450488> or <http://dx.doi.org/10.2139/ssrn.4450488>
- Jain, D. E., & Lamba, J. (2020). Forensic Accounting: A way to fight, deter and detect fraud. *IARS' International Research Journal*, 10(1). <https://doi.org/10.51611/iars.irj.v10i1.2020.106>
- Karpoff, J. M. (2021). The future of financial fraud. *Journal of Corporate Finance*, 66, 101694. <https://doi.org/10.1016/j.jcorpfin.2020.101694>
- Ngai, E., Hu, Y., Wong, Y. H., Chen, Y., & Sun, X. (2011). The application of data mining techniques in financial fraud detection: A classification framework and an academic review of literature. *Decision Support Systems*, 50(3), 559-569. <https://doi.org/10.1016/j.dss.2010.08.006>
- Okerefor, K. (2021). *Cybersecurity in the COVID-19 Pandemic (1st ed.)*. CRC Press. <https://doi.org/10.1201/9781003104124>
- Peecher, M. E., Schwartz, R., & Solomon, I. (2007). It's all about audit quality: Perspectives on strategic-systems auditing. *Accounting, Organizations and Society*, 32(4-5), 463-485. <https://doi.org/10.1016/j.aos.2006.09.001>
- Purda, L., & Skillicorn, D. (2015). Accounting Variables, Deception, and a Bag of Words: Assessing the Tools of Fraud Detection. *Contemporary Accounting Research* 32(3), 1193-223. <https://doi.org/10.1111/1911-3846.12089>
- Sun, G., Li, T., Ai, Y., & Li, Q. (2023). Digital finance and corporate financial fraud. *International Review of Financial Analysis*, 87, 102566. <https://doi.org/10.1016/j.irfa.2023.102566>
- Wang, G., Ma, J., & Chen, G. (2023). Attentive statement fraud detection: Distinguishing multimodal financial data with finegrained attention. *Decision Support Systems*, 167, 113913. <https://doi.org/10.1016/j.dss.2022.113913>
- Wells, J. T. (2014). *Principles of fraud examination*. John Wiley & Sons.
- Zhou, W., & Kapoor, G. (2011). Detecting evolutionary financial statement fraud. *Decision support systems*, 50(3), 570575. <https://doi.org/10.1016/j.dss.2010.08.007>

ISTRAŽIVANJE FINANSIJSKIH PREVARA U SAVREMENOM OKRUŽENJU: FORENZIČKO RAČUNOVODSTVO U ERI COVID-19

Ovaj rad istražuje razvoj forenzičkog računovodstva, posebno u kontekstu finansijskih prevara i izazova u toku pandemije Covid-19. Evolucija finansijskih prevara tokom vremena, podržanih tehnološkim napretkom i promenom poslovnog okruženja, naglašava potrebu za prilagodljivim i inovativnim pristupima otkrivanju i prevenciji istih. Napredne metodologije, uključujući analitiku podataka, digitalnu forenziku i veštačku inteligenciju, opremaju forenzičke računovođe da se suoče sa sve sofisticiranijim šemama prevare. Ispitivanje prevara koje proizilaze iz pandemije naglašava otpornost prevaranata u iskorišćavanju ranjivosti tokom kriza. Ovaj rad naglašava važnost forenzičkog računovodstva u održavanju finansijskog integriteta, etičkih standarda i poslovne otpornosti. Poziva na kontinuirano istraživanje, inovacija i budnost u oblasti forenzičkog računovodstva kako bi se suprotstavili novonastalim šemama prevara i poslovnom okruženju koje se razvija.

Ključne reči: *Forenzičko računovodstvo, finansijske prevare, COVID-19, otkrivanje prevara, prevencija, etički standardi.*

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