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Contents

Editorial Words

Dear Distinguished Readers,

In the realm of academia, where the pursuit of knowledge and the sharing of wisdom take center stage, we are delighted to introduce the second issue of Volume 27 of the ASEJ Scientific Journal. This publication, in partnership with the Bielsko-Biala School of Finance and Law, continues to serve as a repository of intellectual exploration and a testament to the wealth of contemporary research.

Within the pages of this volume, a diverse collection of scholarly articles awaits. Each article represents a facet of our collective commitment to understanding the intricate tapestry of global concerns. From the realm of education to the intricacies of energy security, from the digital landscape to geopolitical intricacies, these articles provide valuable insights and open doors to meaningful discourse.

The essence of this volume lies in its unwavering dedication to furthering our comprehension of complex subjects. These articles, penned by experts and scholars who are leaders in their fields, are a testament to the rigorous examination and exploration of topics that resonate with our ever-evolving world.

As you embark on this intellectual journey through Volume 27, No. 2, we invite you to consider the broader tapestry of knowledge it presents. Each article adds depth and dimension to the ongoing conversations surrounding the most pressing issues of our time. Together, they form a mosaic of thought, offering fresh perspectives, innovative solutions, and a deeper understanding of the complexities that define our contemporary world.

These articles are more than words on paper; they represent the collective pursuit of wisdom and the desire to share it with our readers. In each piece, you will find the dedication of researchers who have invested their time, expertise, and energy to illuminate the issues at hand.

We encourage you to engage with these articles, to discuss and debate their findings, and to contribute to the ongoing dialogue that drives the pursuit of knowledge. We trust that this volume will not only inform but also inspire, and that the insights it offers will be a valuable addition to your intellectual journey.

The imperative role of risk management in ensuring the security of logistics processes within small service enterprises is illuminated, emphasizing the significance of mitigating risks in this sector. Safety management in the context of ISO 9000 quality management systems is dissected, underscoring the pivotal role of these systems in ensuring the safety and quality of organizations.

We invite you to immerse yourselves in this eclectic collection of scholarly works, each a beacon of knowledge and insight into these crucial subjects. The articles contained within this volume aspire to stimulate discussion, foster a deeper understanding, and inspire further exploration. We trust that the journey through these pages will be an intellectually enriching experience for all our readers.

Doc. Dr Kateryna Pilova
Editor of the ASEJ, Issue 2, Volume 27, 2023.

The Significance of Risk Management in Ensuring Security of Logistics Processes in Small Service Enterprises

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***Abstract*— .This article aims to enhance the current understanding of risk in strategic management, with a specific focus on ensuring security of corporate logistics processes. The research problem was formulated in the form of a question: What is the significance of risk identification in ensuring the security of logistics processes, considering an evaluation of the present state in light of identified gaps, hazards, and the consequences of their occurrence? The following research hypothesis was verified: The identification of risks associated with compromising security of logistics processes in small enterprises has a direct impact on the capacity to manage risk and, consequently, on ensuring the security of these processes in small service enterprises operating within the supply chain.**

Keywords— safety, risk, risk management, logistics processes, service enterprise

I. INTRODUCTION

Risk management plays a crucial role in avoiding erroneous decisions in service enterprises, thereby influencing both markets and the entire economy.

Irrespective of size, industry, or business type, every enterprise aims to achieve two core objectives: survival and growth. These objectives are aided by a state of certainty that ensures the enterprise's existence and safeguards its continuity, and thus its security (Gorczyca, Stawarz). Security issues relating to the implementation of logistics processes constitute a crucial element influencing proper functionality across various areas of an enterprise. Rationality in security management is possible when the level of security can be determined (Rut, Miłaszewicz, 2014, p.1317).

Effective and integrated risk management necessitates the incorporation of the risk management process into the enterprise management process (Kaczmarek,2005, p.321).

The scientific objective of this article is to enhance the current understanding of the issue of risk in strategic management, with a specific focus on ensuring the security of corporate logistic processes.

The research focuses on exploring the significance of risk associated with ensuring the security of logistics processes in a selected small service enterprise.

The subjects of the research are service enterprises operating in the small enterprise category in Poland.

The research problem was formulated in the form of a question: What is the significance of risk identification in ensuring the security of logistics processes, considering an evaluation of the present state in light of identified gaps, hazards, and the consequences of their occurrence?

Research hypothesis verified: It is hypothesised that the identification of the risk of loss of security of small enterprise logistics processes has a direct impact on the capability to manage risk. Consequently, this process contributes to ensuring the security of these procedures within small service enterprises operating in the supply chain.

The following research methods and tools were employed in the course of the research:

- analysis of risk management in ensuring the security of logistics processes in small service enterprises;
- synthesis of propositions that enhance the potential for ensuring the security of logistic processes in small service enterprises;
- deductive reasoning – intuitive thinking;
- risk analysis and assessment using the matrix method;
- algorithmic methods – creating sequences of guidelines to reach the solution to the research problem.

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II. Risk management in small service enterprises

Contemporary service enterprises are grappling with rapidly evolving strategic choices. They are particularly vulnerable to risks emerging from the external environment, in addition to those inherent within the enterprise itself. Every inventory of development indicators in the environment is inherently limited, yet significant. It focuses on crucial issues that will consistently have varied effects on enterprises and the risks inherent in their operations (Kaczmarek, 2005, p.321).

Numerous managers steer their businesses exclusively through conventional financial measures such as profitability and liquidity. Nevertheless, for enterprises, including small service ones, that strive to meet client expectations and demands, qualitative goals regarding the services provided to customers hold notable importance (Kusz, 2011, p.58). They include, for example,

- settlement of accounts with a single customer within a maximum of 10 minutes,
- or increasing market share from 35 to 38%.

To cultivate customer trust, entrepreneurs should discern attributes of the customer service logistics process from both the recipient and supplier standpoints.

When contemplating effective strategies for customer service as a prerequisite for market stability, emphasis should be placed on:

- the placement of customer service strategies within the marketing strategy,
- balancing priority rights and ever-increasing benefits rights in customer service,
- the correlation between customer service and sales strategies.

The absence of a customer service strategy carries the risk that assumed customer service standards will be formulated devoid of a comprehensive understanding of acquiring or sustaining a market position (Matusiak, 2008, p.103).

Amid the current highly uncertain era marked by continual reports of novel hazards and opportunities, proficient risk management has evolved into a substantial challenge for managers. Underestimating risk and neglecting the risk management process can jeopardize survival of an enterprise.

Managers of service enterprises (Fig, 2023) operating in Poland rated the condition of their business as of the end of Q1 2023 as definitely good 8%, rather good 44%, neither good nor bad 41%, rather bad 4% and definitely bad 2% (Wiener Report, 2023, p.13).

An overarching positive sentiment was observed in manufacturing and services. This might suggest that companies are adapting to unfavourable operational conditions and benefiting from improved employee availability, primarily due to the influx of immigrants from Ukraine.

The literature presents a variety of definitions for the concept of risk. For social scientists, risk is synonymous with probabilistic uncertainty (Vasvári, 2015, p. 31). Reducing this uncertainty holds economic significance. Moreover, the effectiveness of risk management decisions is enhanced through the mitigation of uncertainty. Uncertainty can have both negative and positive implications, influencing crucial organizational goals (Rostamzadeh, Ghorabaee, Govindan, Esmaeili, Noubar, 2018).

The historically first conceptualization of risk in the realm of economic sciences is attributed to A.H. Willett's work (Willett, 1901), wherein risk is defined as an objective state of the environment, albeit correlated with subjective uncertainty (Urbanowska-Sojkin, 2013, p. 20). According to Willett, risk should be related to the degree of uncertainty regarding the occurrence of a specific outcome, rather than merely its probability. Consequently, uncertainty about the probability of occurrence of a particular event is rooted less in objective factors and more in human fallibility, resulting from an imperfect understanding of the governing principles of reality (Tarczyński, Mojsiewicz, 2001). However, the notion of uncertainty introduced by F.H. Knight in 1921 gained considerably more prominence. Knight delineated between certainty, uncertainty, and risk, interpreting these concepts within the context of probability theory. According to Knight, lack of certainty (uncertainty) can manifest in both quantifiable and unquantifiable forms, with risk representing a quantifiable type of uncertainty, while unquantifiable uncertainty pertains to pure certainty (Piguła, 2016, p. 42). The third approach entails two definitions of risk and was developed by the United States Committee on General Insurance Terminology. According to the first definition, risk is the uncertainty as to the outcome of an event when two or more possibilities exist. This is measurable uncertainty as to whether the intended purpose of the action will be achieved. The second definition focuses attention on issues of insurance practice, stating that a risk is a person or thing insured (Piguła, 2016, p. 43). The definition of risk presented in the literature often centres around its potential consequences. Definitions that elucidate risk by highlighting its outcomes encompass a range of factors, related to revenue, costs, profit, market share (Hitt, Freeman, Harrison, 2001), competitive position (Porter, 2010), among others. These notions are presented in a manner that instils the belief among managers that an enterprise's developmental strategy should ensure its long-term success (Steinmann, Schreyögg, 1977), while also recognizing that risk has the potential to curtail or even undermine this success (Urbanowska-Sojkin, 2013, p. 60). Risk itself does not inherently dictate a specific measure. The majority of definitions correlate the degree of risk with the probability of occurrence. Intuitively, we consider events with higher probability of occurrence to be riskier than those with lower probability (Reto R. Gallati, 2003, p.10). Risk is state in which there is exposure to the vagaries of fortune. In addition, there is an expectation of what the outcome should look like. Consequently, risk is defined as a state where the potential for deviation from the desired, anticipated outcome exists (Reto R. Gallati, 2003. pp. 7-8).

Risk increases with increasing uncertainty. It becomes one of the key factors influencing business activity. Three risk aspects can be distinguished (Sichelska, 2017, pp. 64-65):

- inherent risk – relating to catastrophic phenomena e.g. fire, flooding;
- subjective risk – related to the imperfection of human beings who subjectively assess the probability of specific

future occurrences;

- objective risk – an absolute form of uncertainty stemming from the inability to predict certain phenomena's development.
- Risk can be exacerbated by (Stajniak, 2013, p. 65):
- processes in the supply chain,
- suppliers, e.g. through discontinuation of contact, unsatisfactory quality of components, frequent delivery delays;
- customers – requiring changes in service;
- service providers – unfavourable contracts with logistics operators, low service levels, or errors by consulting firms;
- competition.

Risk does not constitute a hazard, but rather signals its potential emergence. Risk analysis offers a coherent depiction of hazards, categorizing them based on valued consequences, alongside the probabilities of occurrence within the enterprise. It outlines directions and priorities for selecting suitable tools for their evaluation. The accelerating pace of change, globalization, rapid technological advancement, the fourth industrial revolution, hypercompetition, evolving customer needs and expectations, cost pressures, low rankings, and increasing stakeholder interest in sustainable development principles shape the management of contemporary enterprises (Gąsowska, 2022, p.13).

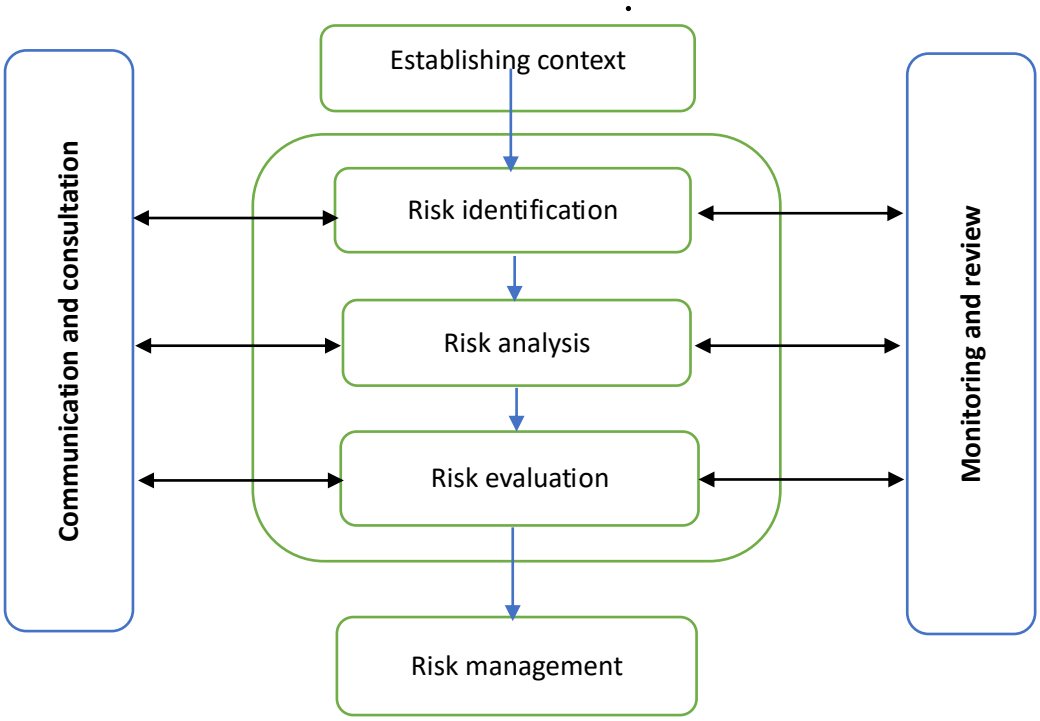
The PN-ISO 31000:2018-08 standard outlines a risk management process implemented in three key stages:

- establishing context,
- risk assessment,
- identifying measures linked to risk management.

Throughout the process implementation, emphasis is placed on continuous monitoring and review, as well as communication and consultation at each stage of risk assessment.

Figure 1.1 shows the risk management process diagram.

FIGURE. 1.1. RISK MANAGEMENT PROCESS DIAGRAM



Source: own elaboration based on PN-ISO 31000:2018-08.

In order to achieve the desired economic and market results, both service and non-service enterprises should prioritize their operational procedures and the outcomes they yield. Additionally, they should coordinate and integrate constituent actions within these procedures (Skrzypczak, Hoffman, 2010, pp. 12–16). Every enterprise possesses its distinctive value-generating sequence of processes, impacting customer experiences and financial performance. However, there also exists a general model that businesses can customize to suit their specific requirements when crafting an internal perspective on processes (Skrzypczak, Hoffman, 2010, pp. 12–16; Gąsowska, 2022, p. 59). A process is considered logistical when the execution of the process supporting the business requires coordination with other processes due to the place and/or time of execution and the rules for producing and transferring the results. Support can occur in the planning phase, at the input, during implementation and at the output of the core processes. The supporting process should be properly coordinated with the core processes and should result in an increase in the value of the core results. Moreover, coordination should extend across supporting processes as well (Gąsowska, 2022, p. 64).

Adopting a logistics perspective grounded in logistical processes, coupled with effective security management, also bestows considerable advantages upon organizations (Rut, Miłaszewicz, 2014, p.1317) .

Managing risk to ensure the security of logistics processes in small enterprises primarily relies on employer responsibilities to organize the workplace in a manner that safeguards the security and lives of employees. Employers should endeavour to minimize occupational risks and potential hazards while assessing and identifying the occupational risks inherent within their service enterprise. Owners of small service enterprises should channel their efforts into improving organizational structures, encompassing well-organized workspaces, the automation of machinery and equipment, optimization of technical, technological, production, transportation, warehousing, and distribution domains, efficient communication (both internally and externally), as well as ensuring a reliable and swift flow/transmission of information between distinct processes.

Finding the right tools to manage risks and their consequences effectively becomes feasible when owners of small enterprises, including those that provide services, ensure the security of their logistical process execution. To a certain extent, this guarantees the continuity of these processes, even amidst uncertain or undesirable circumstances. This is of paramount importance since the security of logistical process execution exerts an impact on factors like customer satisfaction, employee efficiency, business competitiveness, achievement of set goals, and economic and financial outcomes. Thorough description of logistical processes and their precise delineation from the overall functions of an enterprise enables prompt response in case of a potential risk. Therefore, any logistics process should include plans for emergencies. The most considerable risk to ensuring the security of logistics process is the lack of proactive measures aimed at continuous improvement. This not only affects employee security but also the overall security of the entire enterprise.

Some of the most widely recognized and utilized standards for risk management include:

1. the Risk Management Standard developed by the Federation of European Risk Management Associations – FERMA.
2. Enterprise Risk Management – an integrated framework prepared by the Committee of Sponsoring Organisations of the Treadway Commission COSO II.
3. Australian and New Zealand Risk Management Standards AS/NZS 4360:2004.
4. PN-ISO 31000:2018-08

Implementing an effective risk management system to ensure the secure execution of logistical processes within small logistics enterprises necessitates the introduction of appropriate monitoring procedures for executing strategies across all pertinent aspects. Monitoring should encompass: established goals and tasks of the risk management system, identified business risks, risk management protocols, and mechanisms for enhancing risk management. An effective monitoring process plays a significant role in the assessment of correctness of the risk management system conducted by owners of small service enterprises.

Enterprise risk management holds a significant position in sustainable organizational growth through the identification, quantification, and control of risk, including risk associated with sustainable development. It also guarantees organizational stability, augments economic efficiency and expansion, and has the potential to bolster investor confidence. Enterprises aiming for success should be responsive to changes in the business environment, internationalization, technological advancements, stakeholder-oriented thinking, emerging trends, and concepts (Krenchovská, Procházková, 2014).

III. Risk analysis and assessment using the matrix method in the selected small service enterprise

Using the example of the service enterprise analysed, a risk analysis was carried out in order to ensure the safe execution of logistics processes. The analysed service enterprise X has been operating in the catering market sector in Poland in the Lubelskie Voivodeship since 2018. Enterprise X is classified as a small company. Its yearly workforce averages around 43 employees, and the annual net revenue from product sales remains below the equivalent of EUR 10 million. The enterprise's strategic objective entails doubling its turnover within the upcoming 5 years.

The owners of enterprise X have set three tactical goals:

1. Establish a stable market position.
2. Attain a minimum 50% increase in orders over the next two years.
3. Expand the operational scope of the enterprise.

The following three operational objectives are also of significant importance:

1. Enhance the quality of offered products and introduce certified organic food to Enterprise X's menu by the end of 2023.
2. Introduce new seasonal dishes.
3. Achieve a quarterly expansion of enterprise X's operational area by approximately 4 municipalities.

To gather opinions on risk management in ensuring the security of logistics process in small service enterprises, a partial (incomplete, non-exhaustive) study was conducted, targeting specific statistical segments of the population.

A survey was carried out, directed at a distinct group of individuals. A questionnaire was developed to identify the most common risks. The 14 risks were identified by the authors of the study on the basis of a catalogue of the most common risks that occur in enterprises. Respondents selected the five that they felt were most common in service enterprise X analysed. The survey was anonymous. Respondents were asked to answer 21 questions. Forty-seven employees of the company were surveyed. This article presents only selected results from the surveys. Table 1.1 presents the identification of the risks present in the surveyed service enterprise. When writing the manuscript, pay attention to the proper description of its key parts.

TABLE 1.1 IDENTIFICATION OF THE RISK OF HAZARDS PRESENT IN A SERVICE ENTERPRISE X

Risk/ hazard factors	Description	Cause of the hazard	Effects
Human factor (Z1)	An organisation's human resources constitute its most critical factor. The knowledge, skills and health of the workforce influence the development of the organisation. The human factor is seen as embodiment of the organizational framework, encompassing both individuals and groups who fulfil responsibilities and tasks arising from their roles, as well as the objectives and targets to be achieved (Górny, 2010, pp. 411-419)	Lack of investment in human capital. Lack of knowledge and skills.	Failure to invest in human capital results in a lack of enterprise development.
Lack of flexibility in the service process. (Z2)	Flexibility is the ability to meet customer expectations without increasing costs, time or even without excessive losses [Lowson, 2002; Grześ-Bukłaho, 2022, p.74]	Emergence of market competition. The quality of services provided to customers/consumers must meet their expectations and needs, thus enabling the service enterprise to gain a competitive advantage.	Lack of flexibility results in increased costs, time and other losses. Lack of competitive advantage.
Latent information asymmetry (Z3)	Miscommunication between service provider and customer	Mismatch between the service provider's offer and the cost structure of customers	Lack of information exchange. Loss of corporate reputation.
Inability to foresee failures/hazards (Z4)	Absence of backup for the production and service schedule in unforeseen disruptions or contingencies.	Lack of an emergency plan leads to disorder, unjustifiable interruptions, loss of raw materials, escalated machine wear, and employee overtime.	For instance, outages in external or internal power grids causing power loss result in downtime and consequent financial losses.
Damage to goods or commodity errors (Z5)	Damage is a fortuitous event, rendering an item incapable of fulfilling its intended functions.	Lack of an efficient complaints process, Lack of regular quality monitoring. Lack of a mobile phone application for product control.	Virtually all goods are subject to deterioration in quality, which often even occurs independently leading to a reduction in their value or even complete uselessness. Customer attrition due to lack of quality.

Source: own elaboration based on

Table 1.2 shows a five-level scale of probability (frequency) of hazards occurrence in qualitative terms, using the Likert scale description (Likert, 1932, pp. 5-53).

TABLE 1.2. QUALITATIVE DESCRIPTION OF THE PROBABILITY SCALE

Scale	Frequency	Description
5	Very likely	Occurs daily
4	Quite often	Occurs several times a week
3	Sometimes	Occurs several times a month
2	Rarely	Occurs once every six months
1	Very rarely	Most likely, it will not occur at all

Source: own elaboration

Table 1.3 shows the estimation of consequences, losses generated, associated with risks in ensuring the security of logistics processes in small service enterprises. In qualitative terms, the consequence is described on a scale of 1-5, where

5 indicates a catastrophic consequence, 4 indicates a severe consequence, 3 indicates a moderate consequence, 2 indicates a minor consequence and 1 indicates a negligible consequence. The established criteria were developed on the basis of statistical data obtained from the surveyed service enterprise X. The value of losses was determined from PLN 5 000 to PLN 1 000 000.

TABLE 1.3 VALUATION OF RISK-RELATED CONSEQUENCES IN ENSURING THE SECURITY OF THE LOGISTICS PROCESSES IN SERVICE ENTERPRISE X

Scale	Consequences	Solution	Category	Description
5	Catastrophic	Solving the problem will be very time- or resource-intensive, remedying the consequences will be very difficult or even impossible and will have a very significant impact on the enterprise and lead to the failure to	Loss of position	The company has lost its good reputation and key customers
			Downtime	Downtime at more than 1 department [up to 8h].
			Entrepreneurship	Financial loss < PLN 500 000-1 000 000
			Reputation	Loss of positive corporate image

Scale	Consequences	Solution	Category	Description
		achieve the main goal.		
4	Severe	Solving the problem will require a significant amount of time or resources. Resolution will be difficult and will significantly affect the enterprise's operations. It will likely lead to the failure in meeting the enterprise's main objective.	Loss of position	The enterprise has lost a key customer. The business environment starts to perceive negatively the company's operations.
			Downtime	Downtime at 1 department [up to 8h]
			Entrepreneurship	Financial loss < PLN 100 000-500 000
			Reputation	A decisive influence on the image of the company
3	Moderate	Solving the problem will require a moderate amount of time or resources. Resolution will be time-consuming and may lead to failure to achieve the enterprise's main objective.	Loss of position	The enterprise loses some medium-sized customers. Noticeable impact on corporate reputation.
			Downtime	Downtime at individual departments [up to 5h]
			Entrepreneurship	Financial loss < PLN50 000-100 000
			Reputation	Average impact on corporate reputation.
2	Minor	Solving the problem will require some time or resources. Resolution will be time-consuming and may lead to business disruption	Loss of position	The company loses 1 medium-sized customer.
			Downtime	Noticeable downtimes [up to 2h]
			Entrepreneurship	Financial loss < PLN 10 000-50 000
			Reputation	Noticeable impact on the perception of the company.
1	Negligible	Solving the problem will require a negligible amount of time or resources. The problem will not cause permanent damage. May result in short-term or minor disruption to business operations	Loss of position	Lack of company-wide consequences.
			Downtime	Downtime max. up to 1 h
			Entrepreneurship	Financial loss < PLN 5 000-10 000
			Reputation	Lack of influence on company image

Source: own elaboration

Risk measurement (scaling) involves calculating quantitative and qualitative risk values according to a conventionally established measure.

The risk matrix used to assess the level of significance of a given risk, commonly referred to as mapping, is one of the key methods for estimating risk values, including the probability of its occurrence. It encompasses the impact of selected risks on the security of the implemented strategy. As the values on the P (probability) and S (severity) coordinates increase, the position of specific risks on the matrix takes on the following meanings:

- upper right quadrant (red) – highest, priority risks;
- bottom left quadrant (green) – lowest, insignificant risks;
- upper left and lower right quadrant (yellow) – real risks, minor (incidental losses).

The upper right quadrant of the matrix (red area) requires special attention and immediate response in order to move these risks into the realm of at least acceptable risks.

Table 1.4 illustrates the risk assessment matrix of the service enterprise under study.

TABLE 1.4. RISK ASSESSMENT MATRIX FOR SERVICE ENTERPRISE X

RISK ASSESSMENT MATRIX			CONSEQUENCES				
			1 irrelevant	2 relevant	3 serious	4 high	5 catastrophic
PROBABILITY	Very high 81-100%	5	0	0	1 (Z4)	0	0
	High 61-80%	4	0	0	0	1	0
	Moderate 41-60%	3	0	4 (Z3)	1	0	1 (Z1)
	Low 21-40%	2	0	1 (Z5)	1	1	3 (Z2)
	Very low 0-20%	1	0	0	0	0	0

Source: own elaboration

Based on the identified risk factors presented in Table 1.4., a basic quantitative calculation was performed, and the values of risk factors in respective groups were computed.

- red (SA) – highest, priority risks: 1+0+0+1+0+1 = 3; the value of risk factors in this group is: 3/14 = 0.2143 (21.43%)
- green (SB) – lowest, insignificant risks: 0+0+1+0+0+0 = 1; the value of risk factors in this group is: 1/ 14 = 0.0714 (7.14%)
- yellow (SC) – real risks, minor (incidental losses): 0+0+0+0+0+0+4+1+0+1+3+0+0 = 10; risk factor values:

10/14 = 0.7143 (71.43%)

Table 1.5 presents a quantitative and value-based summary of the risk assessment at service enterprise X under study.

TABLE 1.5. RISK ASSESSMENT AT SERVICE ENTERPRISE X UNDER STUDY

Risk	Amount	Probability
SA	3	21.43%
SB	1	7.14%
SC	10	71.43%
SR	14	100%

Source: own elaboration

Risk factors in the SA group are characterised by a high probability of occurrence and require an immediate response from the enterprise. This group includes two of the hazards shown in Table 1.1, namely:

Z4 – inability to foresee failures/hazards. This hazard has been categorized as having significant consequences, and the probability of occurrence is considered very high, i.e. on a daily basis;

Z1 – human factor. This hazard is regarded as catastrophic in its consequences, and the probability of occurrence is assessed at a moderate level, i.e. several times a month.

In group SB, representing insignificant risk, there is one hazard:

Z5 – damage to goods or commodity errors. Although this hazard has been identified as significant in its consequences for the analysed small service enterprise, the probability of its occurrence is assessed as low, i.e. once every six months. This is a factor that the enterprise can accept at the moment; however, the management should continually monitor it, as over time, it might shift to other areas of the risk matrix.

The last two risks were in the SC group characterised by real risk:

Z2 – lack of flexibility in the service process. This hazard is categorized as having catastrophic consequences, although the probability of its occurrence is perceived as low by employees, i.e. once every six months;

Z3 – latent information asymmetry. This hazard has been categorized as significant in its consequences, and the probability of occurrence is considered moderate, i.e. several times a month.

Ten out of the fourteen risk factors are classified within this group. The hazards within this part of the matrix do not necessitate an immediate response from management. However, it is important to highlight that the significant accumulation of risks in one place may have negative implications for the analysed service enterprise in the future. Preventive mechanisms should therefore be applied in this area within the enterprise in order to ensure the security of logistics processes in this service company by preventing the occurrence of these risk factors.

IV. FINAL CONCLUSIONS

In order to secure the achievement of established tactical, operational and strategic objectives, small service enterprises should manage risks by identifying and analysing risk factors, evaluating and developing risk management plans. Risk identification, understood as finding potential events that may affect the operation of small service enterprises, is the first step in the risk management process. The aim of this process is to maintain risk within predefined, acceptable boundaries that enable the realization of the goals of small service enterprises. In the event of risk materialisation, the main focus should be on ensuring the business continuity of small service enterprises, which is achievable through prior development of risk management procedures.

Based on empirical research conducted in the small service enterprise, the following conclusions were drawn:

1. In order to ensure the security of logistics processes, risk/hazard factors should be identified and analysed, considering the characteristics and causes of the hazards and the consequences they entail.

2. For the identified risk /hazard factors, it is important to establish a probability scale of their occurrence and a table for assessing hazard consequences. In addition to the scale, the said table provides information about the consequences caused by the hazard, methods of its resolution, and its characteristics.

3. Based on this, a risk assessment matrix can be created, serving as a tool for visually representing the hazards in processes carried out by small enterprises. The most dangerous, top right corner of the matrix (high probability, high impact for the enterprise) conveys the message to management that actions should be taken to secure against the occurrence of hazards located there. The visual form of the matrix allows for a quick assessment of whether a given process is sufficiently safeguarded against potential issues. If too many risks are present in the red areas of the matrix, action should be taken to eliminate potential hazards.

The use of a risk matrix affects the security of the processes implemented by small service enterprises. Being prepared for their occurrence contributes to the competitive advantage of small service enterprises, their ability to survive in the market, and their growth.

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