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Risk management in diffused structures: Analysis for Shared Services Centers

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Abstract

Research background: Shared Services Centers (SSCs) are often a spin-off of corporate services to separate all operational tasks from the corporate headquarters. The primary focus of the headquarters should be on leadership and corporate governance. However, many SSCs have also been given some corporate functions. Risk management is a significant part of governance and one of its principles. The effectiveness of risk management depends on its integration into the organization's governance, including decision-making. The question is how a modern SSC manages this part of governance.

Purpose: This study aims to present the conditions that prove the implementation of risk management in SSCs and to evaluate the most effective risk management model.

Research methodology: Targeted literature review followed by surveys and a case study.

Results: The risk management process consists of several stages that are repeated in many models (identification and risk assessment, risk management model selection, and monitoring). Thus, it is possible to use each model in the SSC concerning the migrated processes, considering the limitations of the strategic goals definition. However, not all methods will find a potential application in risk management in the SSC, considering the most effective risk assessment.

Novelty: While the literature provides models that can be of use, a lack of specific guidelines has been recognized, especially regarding the risk management aspect in SSCs. In the last decade, the focus was on the expected benefits coming from standardization, ignoring the new risks in SSC processes.

1. Introduction

The term “risk” is derived from the Italian language (*risico*), which primarily means a project with an uncertain result. The future outcome is unknown, but alternatives can be identified, assuming that the chances of possible alternatives are known (Jajuga, 2019; Szczepański, 2016). The risk should be assessed, and appropriate actions should be taken to respond adequately.

Risk management is a range of activities that an entity needs to undertake to allow only the amount of risk that is acceptable for the business operations it conducts (Michalski, 2004). It brings risk under control and includes a range of activities connected with risk analysis, elimination, reduction, and management in a given case (Monkiewicz, 2000).

There are many definitions of operational risk, formulated in different scientific disciplines (such as economics and finance, management and quality sciences). In the most general terms, operational risk includes all types of risks occurring in an enterprise that are not classified as financial risk. Operational risk could be defined as “loss resulting from inadequate or failed internal processes, people, and systems, or from external events (e.g. frauds, inadequate computer systems, a failure in controls, a mistake in operation, a guideline that has been circumvented, or a natural disaster)” (Basel Committee, 2011; Croughey, Galali, Mark 2014).

The Basel Committee on Banking Supervision defines operational risk as the possibility of incurring losses due to inadequate or faulty systems, incorrect procedures and methods of operation, human error, technical failures and external events. According to this concept, the following categories of risk factors can be distinguished:

- processes – a category of losses incurred as a result of errors in the procedures adopted, an insufficient number of procedures or their absence, losses in this category are not the result of intentional actions, but may be the result of human error or non-compliance with applicable procedures;
- people – the source of this type of risk are intentional or unintentional actions of former or current employees to the detriment of the employer;
- systems – refers to losses resulting from the failure of telecommunications or IT systems, including software, losses in this category are not the result of intentional actions;
- external events – refers to losses incurred as a result of the impact of external factors on entities, these may be losses caused by natural catastrophes or the activities of third parties.

The fulfillment of operational risk always consists of the loss of key resources or the loss of control over these resources, but in general, risk management encompasses (Basel Committee, 2011) the following steps, adjusted for general business activities:

1. process of identifying risks,
2. measuring exposure to those risks (where possible),
3. ensuring that an effective monitoring program is in place,
4. monitoring risk exposure,
5. taking action to control or mitigate risk exposure,
6. reporting risk exposure to senior management and the board.

A critical dilemma in the operational risk management process is whether and to what extent operational risk management should be excluded from general management and made an autonomous process. Operational risk management is carried out in two streams (Zawiła-Niedźwiecki, 2013):

1. general – a part of current management that is difficult to separate and observe, and management activities are routine reactions, situation analyses, assessments, and decisions;

2. specific – autonomous, related only to that type of risk, based on task structures, operating on an interval basis (periodic work), and focused on in-depth analysis and development of solutions that precisely address the risk.

Internal controls are typically embedded in the company's day-to-day operations and are designed to ensure, to the extent possible, that significant activities are efficient and effective and that information is reliable, timely, and complete. What is important, because operational risk management evolves and the business environment is constantly changing, management should ensure that the framework policies, processes, and systems remain sufficiently robust. Improvements in operational risk management will depend on the degree to which the concerns of operational risk managers' are taken into account and the willingness of senior management to act promptly and appropriately on their warnings.

There are many challenges to assessing and mitigating the operational risk, such as:

- the required data is not always available,
- operational complexity is growing in enterprises,
- the universe of operational risk types is expanding,
- operational risk overlaps with other risk functions (especially with financial risk).

Some of the challenges related to operational risk management are related to the organizational structure and management of the company:

- operational staff complains that monitoring and reporting take time away from their other responsibilities;
- lack of cooperation between organizational units and individuals dealing with different types of risk;
- problems connected with outsourcing certain functions or tasks of the enterprise related to risk management;

– lack of awareness of the need and appropriate procedures for coordinating the implementation of the lean management strategy with operational risk management in a company.

The above-mentioned challenges regarding the relationship between the implementation of the lean management strategy and tools, the outsourcing of chosen corporate functions (to SSCs) and operational risk management have become the inspiration for conducting research, the preliminary results of which are presented in this article.

2. Theoretical aspect of research: Characteristics of SSC

In the current turbulent times of high uncertainty, lack of predictability, and complex organizational structures, effective operational risk management is becoming increasingly critical. Operational risk is inherent in any activity and exists before other types of risk appear. Considering the growing number of SSCs that are willing to choose Poland (ABSL, 2021) to conduct their activities, a research gap has been noticed regarding the effective involvement of SSCs in risk management, taking into account modern management methods, mainly lean management.

Utilizing a third party to perform various tasks and services is a business practice that has existed for centuries, even dating back to Rome, for tax collection (Duffy, 2010). Officially, Adam Smith first proposed the concept of outsourcing in 1776 in *The Wealth of Nations* (Smith, 1977). In addition, division of labor and specialization is critical to optimizing productivity by increasing cooperation among groups of employees and promoting individual efficiency (Porter, 2006).

Over the last 20 years, business outsourcing has evolved from the traditional outsourcing of facilities management to the outsourcing of more administrative support functions such as information technology, finance, accounting, and human resources. In these cases, a company transfers tasks to an outside entity rather than performing them internally, most often for efficiency and financial benefits (Trocki, 2001). As Henry Ford suggested, “If there is a thing that we cannot do more efficiently, cheaper or better than a competition, there is no point in doing it further – we should hire the one who does it better than we do” (Ciesielska and Radło, 2011).

SSCs are similar to outsourcing because they are separate entities, but the existing units are not liquidated. Only certain activities and processes extracted from these units are transferred and consolidated in the centers. SSCs differ from outsourcing primarily in that the tasks are not outsourced, but handled by a specially established unit that remains within the structures and under the control of the parent company. An SSC operates as a business with full responsibility for managing its costs, quality, and timeliness of services. It has organizational independence and uses contractual arrangements (known as a service-level agree-

ment – SLA) with its internal customers to define the type, scope, and price of services provided. Moreover, an SSC provides well-defined processes or knowledge-based services for more than one unit of a company (e.g., division, business unit) with its dedicated resources (Institute of Management Accountants, 2000). In the SSC model, an independent entity is separated from the organization and is responsible for providing services to its other units. The Global Business Services (GBS) model creates a global, integrated, and centrally managed organization that provides comprehensive end-to-end services. GBS is defined as being the last, most advanced step on the SSC maturity scale (E&Y, 2022).

SSCs are a viable alternative to outsourcing, re-engineering, organizational restructuring, and other related “solutions” for costing and building service performance. Innovative structures, strategies, and solutions to complex business problems result from rapid technological progress and the pursuit of global performance standards (Institute of Management Accountants, 2000). Increasingly complex and costly support services within the organization are prime candidates for reducing costs and building efficiency. The modern marketplace and the development of the outsourcing industry have made lean management popular, not only in production but also in the area of SSCs created to outsource functions such as IT, accounting, and HR, as presented in Table 1.

Table 1. Traditional functions moved to SSCs

Finance	HR	IT
General ledger	Processing of salaries	Standards
Liabilities	Payroll administration	Technology/development
Receivables	Administration of benefits	Application development
Taxes	Training and further education	Application maintenance
Purchasing	Relocation services	Telecommunications
Customer Service		Purchasing hardware and software
Cash management		
Internal audit		
Insurance		
Treasury		

Source: own compilation based on: Institute of Management Accountants, 2000; Deloitte, 2019; ScottMadden, 2020.

SSCs are often a spin-off of corporate services to separate all operational tasks from the corporate headquarters. The primary focus of the headquarters should be on leadership and corporate governance. However, many SSCs have also been given some corporate functions. Risk management is a significant part of governance and one of its principles. The board and management must determine risks of all kinds and how best to control them. They must act on those recommendations to manage them and inform all relevant parties about the existence and status of risks. Risk management is part of governance and leadership, and it contributes to the improvement of management systems. As per ISO 31000:2018 (ISO, 2018), risk

management is an integral part of all organizational activities and should be integrated into significant activities and functions. The effectiveness of risk management depends on its integration into the governance of the organization, including decision-making. How is this part of governance migrated to the modern SSC? Integrating risk management requires an understanding of organizational structures and context. Considering that SSCs should be partially responsible for risks because they are managed in every part of the organization's structure, everyone is responsible for managing said risks. Integrating risk management into an organization is a dynamic and iterative process. Risk management should be a part of, and not separate from, the organization's purpose, governance, leadership and commitment, strategy, objectives, and operations.

A blurred responsibility for risks and difficulties regarding ownership, accountability, and communication characterizes risk management in diffused organizations such as SSCs. Once a process or part of it has been migrated to the SSC, it is often disconnected from the business. Due to the strong emphasis on standardization and repeatability, even transactionality, risk is usually no longer actively managed. Another common situation is the migration of the internal control of a given process to the SSC, which is fully justified, but often only increases the sense of impossibility of any change in the process due to the control requirements, including internal and external audit requirements.

On the other hand, entities such as SSCs have a considerable impact not only on what processes look like, but also on what they could look like by comparing them to best practices and drawing on the experience of people working in SSCs¹. Skillful use of the potential impact of SSCs in the risk management process, in the opinion of the article's authors, could increase the effectiveness² of risk management, mainly due to the possibility of obtaining synergy with lean management. The features and stages of risk management for SSCs will be identified and discussed in detail in section 4. Results.

The basic scope of any SSC is transactional and repeatable operations, but as mentioned above, more and more corporate functions are migrated to the modern SSCs. Poland is the proper destination for more advanced functions. The development of the modern business services sector should be analyzed in a broader con-

¹ According to the ABSL report (ABSL, 2022), the voluntary turnover of employees in 2021 was, on average, 15% for SSC and GBS entities. According to the Randstad Labor Market Monitor report, the employee turnover in Poland in the first quarter of 2021 was 23% (Randstad, 2021). Frequent job changers achieve a particular specialization in the knowledge of the process, often reaching the expert level (Subject Matter Expert) and naturally moving to new units where they share their expertise and look for the best solutions.

² The control function's effectiveness in risk management is the subject of a more extensive study for lean risk management.

text than just the number of employees. In addition to the quantitative development, the modern business services sector is changing significantly in terms of quality. There is a clear trend towards a more significant role for more comprehensive processes (gradual transition from back-office to middle-office), which generate higher added value. This process requires more and more resources of well-educated and experienced employees, thus attracting people with more advanced and new areas of competence and qualifications (“skills of the future”). As a result, the level of complexity of business processes is gradually increasing (ABSL, 2021).

Another critical issue in SSCs is process standardization. Ultimately, SSCs have to contribute to the competitiveness and (financial) performance of the firm. As competition shifts to the innovative business models and in relation to this, there are higher dynamics in the composite customer value proposition to be performed, changes in the customer value proposition need to be translated into (back-office) processes in a timely and effective manner. As a consequence, standardization of processes cannot be based on “best practice processes” as previously promoted by IT (enterprise systems) (Davenport, 2000), but needs to be based on modularity (Sako, 2003). Any reconstruction of the process is associated with the occurrence of additional risks. Accountability for these risks should be an integral part of every SSC. With the identification of this research need, the following hypotheses are proposed and tested:

1. Hypothesis 1 (H1): Specific conditions that demonstrate the implementation of risk management in the SSC are defined.

2. Hypothesis 2 (H2): No single, most effective model can be used in the SSC.

While the literature provides models that can be used, a lack of specific guidelines has been recognized, especially considering the risk management aspect in SSCs. It is believed that this current study contributes valuable empirical insights. When discussing risk management in SSCs, insufficient attention is paid to the ownership of processes. In the last decade, the focus was on the expected benefits of standardization, ignoring the new risks in the SSCs processes.

This article is organized to meet the research objectives as follows. Section 3 presents the research methodology in terms of procedures and methods utilized. Then, section 4 presents the results:

1. based on the review of Polish and international literature, the most common risk management models were analyzed;

2. surveys were sent to the SSC audience working in the area of lean management in October 2021 to examine the implementation of risk management;

3. a case study on the suitability of the risk management models helped formulate conclusions and future directions for the research.

Section 5 discusses the empirical findings from the analysis, conclusions, and future directions for this research.

3. Research methods

This study is exploratory research conducted on an issue that has not yet been investigated in Poland within SSCs. Therefore, it is descriptive and analytical from the viewpoint of the exploratory objective, including two steps. The first step entails a targeted review of the existing literature, followed by empirical research covering surveys and a case study. Both steps are explained further below.

The targeted literature review (BMJ, 2009) was conducted to evaluate current trends on the studied matter, using the Web of Science database to identify risk management models which can be further analyzed against usage in the SSC processes. The search strategy included specific keywords: “risk management model” and keywords associated with organization (Shared Services Center, outsourcing, SSC). The search was limited to studies published within the last 12 years (2010–2022) and in the management area. No language restriction was applied to the search, but only studies with an abstract written in English and full text in English and Polish were eligible for inclusion. The first search presented no results, so it was decided to remove the organization filter. A researcher reviewed all retrieved articles, and those considered irrelevant were removed. The remaining articles were further assessed to identify those studies that met the eligibility criteria. A second researcher conducted a quality check on a sample of the selected articles/abstracts, and a full-text review was conducted to determine relevance to the eligibility criteria. The literature search identified 350 records from the selected database. Records were screened, and 271 were excluded based on the eligibility criteria (articles classified as other than economics, business, business finance, and management). Non-Open Access articles (57) were screened using the title, keywords, and abstract. Full-text analysis was conducted for the remaining 22 articles and resulted in the exclusion of 14 articles that did not meet the eligibility criteria. For completeness purposes, an additional verification of available literature was conducted using Google, where an additional six articles were reviewed. A total of 14 references were included in the qualitative analysis.

The next step was to design the survey, a quantitative research method (Czackon, 2020). Because the analysis of risk management is part of more significant research connected with interdependencies between lean management and risk management, it was developed considering two groups: companies that have implemented the lean methodology and companies that have not implemented the lean methodology.

Concerning the companies that have implemented the lean methodology, the intention was to understand the following:

1. organization of the risk management process;
2. control function in risk management;
3. participants in the risk management process.

A survey was withdrawn from the second group of companies after it was confirmed that one of the companies did not implement lean management. The question on lean management / Lean Six Sigma implementation was a selection condition, which means that lack of implementation did not allow for further survey. The online questionnaire performed in the MS Forms application ran online between 17 October 2021 and 31 October 2021. This format was chosen because online questionnaires present numerous advantages in terms of cost, time, easiness of administration, data organization, and analysis (Czakon, 2020). The data file containing the responses obtained was downloaded in MS Excel format. The first section of the questionnaire was addressed to the respondents whose companies had already implemented lean management. The second section of the questionnaire consisted of general questions aimed at characterizing the respondents and the companies.

The questions asked in the questionnaire were translated into qualitative variables (nominal and ordinal) and quantitative variables with Likert-type scale questions from 1 to 5, and the implementation of lean management was measured. The study of companies was grouped according to the role of the respondent, the size of the company (number of internal units and number of employees), the years of lean implementation, the phase of lean progress, and the scope of services. Based on this, statistical tests were carried out to verify any standardization or differentiation.

Quantitative data analysis was performed using descriptive statistics to summarize the information collected, followed by inferential statistical techniques based on the graphical presentation of the data (Czakon, 2020). The statistical analysis was performed using Microsoft Excel and the Statistica application.

The population of the presented study consisted of companies operating in Poland, with SSCs established as part of international capital groups, providing services to at least 20 internal units and employing at least 100 employees. Firstly, based mainly on annual research executed by ABSL on the business services sector in Poland (ABSL, 2021), followed by additional screening on the scope of activities for selected SSCs (website visits), 128 companies were defined as meeting the research criterion. An additional search on the Internet (LinkedIn social medium) helped to collect a list of company representatives for the study. They were selected based on a position related to one of the keywords “lean management,” “process excellence,” or “continuous improvement.” The survey was fully anonymous and shared with the selected people through a private message on LinkedIn.

Considering the population size: of 128 companies in the scope of the research, a confidence level: of 90%, and a maximum error: of 5%, the sample size was defined as 87. In total, 90 questionnaires were successfully sent out, and 23 were collected with responses (a percentage of 25%). Even though the return rate of the questionnaires was low, the research results obtained with different methods are complementary. The results of the questionnaire were additionally confirmed by

the case study method. However, the conclusions of this research cannot be generalized. The main limitation of the research was the size and selection of the research sample based on willingness to participate.

The last stage of the research cycle was the preparation of a case study (Czakon, 2020; Glinka and Czakon, 2021) for a selected SSC. A case study is an in-depth research of processes in their natural environment. The selection of cases is subordinated to the presentation of the research subject. It is intended to contribute to a better understanding of the reality that is the subject of the study. A key issue was to evaluate the most effective risk management model that can be used in SSCs. A deliberate case selection was made to answer this research question. The selected SSC was established in 2011. Currently, the team consists of over 200 people. They provide business services in the areas of finance, accounting, purchasing, tax, internal control, law, and human resources and support companies located in Europe, India, Africa, and the Middle East. Lean management has been used in the capital group for decades and in the SSC area for over five years. A field study was conducted to collect data at the company's headquarters.

4. Results

When analyzing risk management in an SSC in terms of the scope and role of the SSC itself, it is impossible not to notice that, on the one hand, we are dealing with the concentration of processes for many entities, which provides a basis for comparison. On the other hand, processes are dispersed due to incomplete migration and local management. It is common to say that in an SSC, a basis for comparison can be found because one process (e.g., Procure to Pay – PTP, Order to Cash – OTC, etc.) can be compared across many entities. Unfortunately, in the migration process, in the absence of standardization during the “entry” of the process into the SSC, these processes are often transferred incompletely, as they were initially performed, with the promise that they will be fully standardized in the future. With such a migration scheme, one can directly talk about an increase in the level of risk when transferring the process to SSCs.

Considering the above information, it can be assumed that modern SSCs in Poland are increasingly transferring more advanced corporate processes to their responsibilities, including risk management. Risk management is most often assigned to the headquarters and there is a responsibility for it. Therefore, an attempt was made to answer the following questions:

1. What are the reasons for implementing risk management in SSCs?
2. Is it possible to choose the most effective risk management model with a limited scope of operation of SSCs?

Detailed results of empirical research in this area are presented below.

4.1. Targeted literature review and case study

The primary stages of this process, which are repeated in several models, are risk definition, analysis, assessment, observation, and control. The essence of risk management comes down to the continuity of this process because the exclusively continuous and constantly improved risk management process can help an organization reach its planned objectives.

This study performed a targeted review using the methodological approach explained in Section 3 to further the research purpose. Based on the review of the 14 articles sorted by the year of publication, a distinction must be made between risk management and project risk management (Trzeciak, 2021; Sidorova et al., 2022).

Risk management should refer not only to the business operations of an entity, but also be part of a broader process, namely the management of an entire unit (which means that it should refer to the decisions made by an organization, particularly those of a strategic nature). A significant portion of the risks and uncertainties that project managers face is beyond their immediate control and are symptoms of underlying weaknesses/strengths in their organizations’ capabilities. This type of risk has to be assessed and managed at a higher management level in the company. Enterprise risk management allows organizations to optimize how and where they manage risks. Project risk management should be treated as a subset of enterprise risk management. Practically all models created for project risk management should be in line with the enterprise risk management framework. Risk management principles are the central part of an enterprise management process. The risk management system is created in the form of a concept at the initial stage, and then risk management procedures are developed with their subsequent implementation.

In Table 2 the most common risk management models are presented and compared.

Table 2. Comparison of risk management models

Risk management stage	PMBOK	FERMA	PRINCE2 M_o_R	COSO	ISO 31000	In scope for SSC?
1a. Objective setting / Strategic goals		✓		✓		✗
1b. Scope, context, criteria					✓	✗
2. Internal environment				✓		✓
3. Risk management planning	✓					✗
4. Risks / events identification	✓		✓	✓		✓
5a. Perform qualitative risk analysis / Risk assessment	✓	✓	✓	✓	✓	✓
5b. Perform quantitative risk analysis / Risk assessment	✓					✓

6. Decision		✓	✓			✓ / ✘*
7. Plan risk responses	✓	✓	✓	✓	✓	✓
8a. Informing / Reporting about risk		✓		✓		✓
8b. Residual risk reporting		✓			✓	✓
9. Control risks / Monitoring	✓	✓		✓	✓	✓
10. Communication			✓	✓	✓	✓

Source: own compilation based on: PMI, 2004; FERMA, 2011; ALEXOS, 2021; ACCA, 2021; ISO, 2018.

* Depends on empowerment given to the SSC and Service Level Agreement.

The risk management model starts with setting objectives and defining strategic goals for the organization. Although this task is not connected with risk management, it plays a critical role in driving businesses. However, two models consider this step as part of risk management: FERMA and COSO.

The internal environment sets the organization's tone, influencing risk appetite, attitudes toward risk management, and ethical values. An unbalanced board that lacks appropriate technical knowledge and experience, diversity, and strong, independent voices is unlikely to set the right tone. Although this task may seem adequate for an SSC, as the saying goes "the fish rots from the head", without the right tone at the top of the headquarters, a subordinate unit cannot be expected to oppose management practices. Risk management planning defines the initial work performed to identify the risk management approach that should be used in the program and the program-specific assessment criteria.

The next step, directly or indirectly applicable to almost all models, is risk identification. The organization must identify internal and external events that affect the achievement of its objectives. The COSO guidelines distinguish between events with a negative impact (risks) and events with a positive impact, (opportunities), which should provide feedback for strategy setting. All other models define risk identification as the process of identifying the potential sources of risks, both initially and on an ongoing basis. Once the risks are identified, the likelihood and impact of said risks are assessed to determine how to manage them. Finally, management selects appropriate actions to align risks with risk tolerance and appetite, and this stage can be seen in the four main responses: reduce, accept, transfer, or avoid.

Reporting is an integral part of an organization's governance and should enhance the quality of the dialogue with stakeholders, as well as support top management and oversight bodies in fulfilling their responsibilities. Factors to consider in reporting include, but are not limited to:

- differing stakeholders and their specific information needs and requirements,
- cost,

- frequency and timeliness of reporting,
- the reporting method and the relevance of the information to the organization's objectives and decision-making.

The purpose of monitoring and review is to assure and improve the quality and effectiveness of process design, implementation, and outcomes. Ongoing monitoring and periodic review of the risk management process and its outcomes should be a planned part of the risk management process, with clearly defined responsibilities. Monitoring and review should take place in all stages of the process. Monitoring and review include planning, gathering and analyzing information, recording results, and providing feedback. The results of monitoring and review should be incorporated into the organization's performance management, measurement, and reporting activities. The information provided to management needs to be relevant and of appropriate quality. In addition, communication with employees is required. Communicating risk areas that are relevant to the employees' activities is essential to strengthening the internal environment by embedding risk awareness in the thinking of the employees.

This case study was prepared to identify which steps can apply to the SSC and if we can talk about the actual implementation of risk management. The analyzed entity supported over 50 internal units in processing receivables, liabilities, payments, general ledger operations, and other corporate functions. The scope of the overall processes transferred to this unit was still small, as customer service or purchasing processes remained outside of the SSC. Every step was assessed against the scope of the aforementioned SSC by classifying it as in scope / out of scope. It can be concluded that the case study results identify specific steps that the SSC performs. Still, any risk management model can be used independently, mainly due to the limitations of the organizational goal setting and the tone at the top setup.

4.2. Surveys

Given the multidimensionality of the nomenclature in the shared survey, for systematization purposes, the authors decided to add a clarification to the survey's introduction regarding Shared Services Centers versus Global Business Services: "In the Shared Services Center (SSC) model, an independent entity is separated from the organization and is responsible for providing services to other units. The Global Business Services (GBS) model is based on the creation of a global, integrated, and centrally managed organization that provides comprehensive end-to-end services. For the purposes of the survey, GBS is defined as the last, most advanced step on the SSC organizational maturity scale."

Specifically for the survey, a key focus of the study was to identify the interdependencies between risk management and lean management in the companies

where lean management or Lean Six Sigma is implemented³. Therefore, some questions in the survey were focused more on the organization of risk management and the potential implications caused by partial implementation. In addition, these questions were asked to the people responsible for lean management in the selected companies, so further research should be conducted.

The selection condition was the lean management / Lean Six Sigma implementation question. The first few questions were focused on general information about the lean management approach. The most critical information needed for further analysis was the confirmation of lean implementation. This section of the questionnaire was only addressed to companies that practice the lean philosophy (96%, with lean management at 52% and Lean Six Sigma at 44%). Almost all respondents confirmed using this methodology for between one and three years (68%) or more than five years (23%). The levels of lean management implementation were varied. A significant portion of the responses confirmed that almost all organizations analyzed at least identified processes in the scope of the SSC (19%), created value stream maps for them (18%), created a standard process (16%), and implemented a culture of continuous improvement (16%). This specific set of questions helped to understand how mature and advanced lean management is in the SSC structures.

The next set of questions focused on the research's primary purpose of this research and examined the confirmation or rejection of the hypothesis. Based on the survey, it can be concluded that as part of the project activities, process risks and mitigating controls are discussed with representatives of the risk management team or the internal control team (53%) in almost 70% of cases. Furthermore, after streamlining processes, the number of inspections was reduced in over 80% of cases.

Measuring the effectiveness of implementation was also in the area of the research as the Authors wanted to explicitly analyze the importance of specific risk measurement factors at this stage. The most important measures for assessing the effectiveness of lean management, as reported by the respondents involved in lean management activities, were:

1. time reduction (22%),
2. creation of a standard process (19%),
3. cost reduction (15%),
4. quality improvement (14%),
5. number of potential automation opportunities (12%).

Only 5% of respondents reported a reduction of operational risk and a decrease in control activities: 4%. Nevertheless, this is a significant finding from this research, especially for risk management. The responses came from people involved in lean management, so the questionnaire was mainly about their activities. The

³ Some of the conclusions from this research have been published previously, while this article contains new, original research conclusions.

questions on risk management were only a part of a larger whole and were more aimed at checking the extent to which people responsible for lean management were familiar with the risk management process. For the following question: “Does the organization manage risk in a structured way?”, 23% of respondents answered that they did not have such knowledge. The answer to this question also shows the extent of the lack of synergy between lean and risk management activities. The second part of the questionnaire characterizes the sample distributed by the following components presented in Table 3.

Table 3. Summary of the respondents and the companies’ characteristics

Component	Respondents’ responses
Employing entity	82% reported being part of an SSC organization.
Location of the employing entity	Most of the respondents represent Poznań (38%), Warszawa (33%) and Kraków (10%).
Organizational level of the position in the company	Most of the respondents represent Directorial level (27%), Managerial level (27%), and Leader level (23%).
Size of the company: number of internal units	Analyzed the support of the SSC 20–50 units – 82%, 50–100 units – 9%, more than 100 units – 9%.
Size of the company: number of employees	Analyzed the SSC’s employment 100–300 people – 55%, 301–1000 people – 36%, more than 1000 people 9%
Scope of services (top 10)	Purchase to Pay (PTP), Oder to Cash (OTC), Treasury/Cash and Banking, Taxes, Procurement, Internal Controls, Customer Service, Corporate Functions, Application Development and Maintenance, Internal Audit.

Source: own compilation based on received surveys.

In addition, significant differences were found in the models used for the selection of processes. Potentially the barrier to building synergy can be the place of the lean management and risk management teams in the organizational structure, as based on this empirical research, in almost 40% of the responses, no risk management/internal controls representative is taking part in the discussion. Instead, the knowledge of the people in the team and their general understanding of risk is used. It is essential to highlight that this research shows only one perspective, as the respondents represent a lean management team. Further discussion should take place with representatives of the risk management team.

5. Conclusions, implications, and directions for further research

As mentioned earlier, when analyzing risk management in terms of the scope and role of the SSC itself, the concentration of processes for many entities is visible.

However, processes are dispersed due to incomplete migration and local management.

The risk management process consists of several stages that are repeated in many models (identification and risk assessment, selection of risk management model, and monitoring). Thus, it is possible to use any model regarding migrated processes, considering the definition of limitations for strategic goals. However, not all methods can be applied to risk management in a SSC, taking into account the most effective risk assessment.

The scope of risk management plays an important role – focusing on material risks and those potentially significant in terms of the company's overarching goals. This article highlights the limitations of the risk management process in SSCs and defines future research directions. Based on the targeted literature review, models proposed by researchers were presented and discussed. A deeper analysis was necessary to examine how SSCs implement risk management, not only from an organizational perspective but also in terms of the extent and scope of implementation. The results of the survey shed new light on this subject, as the answers received were provided by those working in lean management. A similar discussion should take place with the risk management teams in the respective SSCs.

Specifically for *Hypothesis 1 (H1): Specific conditions proving the implementation of risk management in the Shared Services Centers are defined*, it can be concluded that there are no specified clear conditions when and to what extent the SSC has implemented risk management. This conclusion requires in-depth study, as it may be mainly due to the fact that the respondents were responsible for lean management, not risk management. This conclusion is based on the lack of answers to questions regarding risk management. For *Hypothesis 2 (H2): No single, most effective model can be used in a Shared Services Center*, it can be concluded that the case study results identify specific steps that the SSC performs. Still, any risk management model can be used independently, mainly due to the limitations of the organizational goal setting and the tone-setting at the top.

The conclusions of this research cannot become the basis for generalization; they only serve as concepts that should be considered when designing research that deepens the understanding of this phenomenon. The main limitation of this research was the size and selection of the research sample based on willingness to participate. The practical aspect of this research is related to the usefulness of this knowledge for decision-makers in organizations.

Efficient risk management is a holistic process of managing an organization. It involves all departments, functions, and processes of an enterprise, and the cooperation of all elements determines its success. Appropriate attitude of an organization's management to risk and uncertainty allows its continuous development. It is worth stressing that risk management is closely related to the value of the managed entity as a whole composed of several elements. Their good financial condition and development constitute the strategic goals of an organization. Thanks to risk

management, these goals can be achieved, ensuring the maintenance and growth of the value of the business entity.

Conclusions based on empirical research allow us to state that risk management in an SSC can be performed only partially, as it works for independent entities, because some steps are outside the scope of SSCs. Therefore, a set of conditions that can be used to assess the most effective model of risk management is, in fact, a compilation of modern existing risk management models.

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