



**ORIGINAL ARTICLE**


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**Navigating global markets: The role of enterprise risk management and human resource management in SME international expansions**

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**Keywords:** *risk management; entrepreneurship; internationalization; cross-country analysis; export; human capital*

### **Abstract**

**Research background:** Since SMEs lack the financial and human resources required for internationalization, they face more obstacles than large firms. In this regard, their internal/controllable risk management capabilities based on the Resource-based View (RBV) theory might help them overcome internationalization barriers.

**Purpose of the article:** This study aims to investigate the positive impact of internal/controllable risk management capabilities, such as strategic, operational, and personnel risk capabilities, on the export intention of SMEs. Moreover, this paper finds out whether the impacts of these risk management capabilities on export intention differ depending on the countries where SMEs operate.

**Methods:** This research uses a random sampling method and shares an online questionnaire with survey respondents. It includes research samples from Czech, Slovakian, and Hungarian SMEs. The researchers analyze the effects of enterprise risk management capabilities on export by performing Binary Logistic Regression analyses.

**Findings & value added:** While personnel risk management does not affect the export intention of SMEs, strategic risk management and operational risk management positively affect the export intention of SMEs, depending on the countries where SMEs are located. For this reason, there are international differences in the impacts of strategic and operational risk management capabilities on the export intention of SMEs. This paper provides a more holistic approach to managing internal/controllable risk factors and investigates this construct's effect on internationalization. A country comparison in this specific effect has been only performed in this study. Moreover, the construct of managing internal/controllable risk factors is also linked with the dynamic capability of RBV only in this paper.

## **Introduction**

Nobody can ignore SMEs' crucial role in workforce generation, value addition, export activities (Meluzín *et al.*, 2018; Krajčák *et al.*, 2023; Balcerzak *et al.*, 2023), and countries' GDP (Agboola *et al.*, 2023). For instance, more than 99% of enterprises in the European Union (EU) are SMEs, creating around two-thirds of the workforce in the EU (OECD, 2022). However, their insufficient financial and human resources and lack of risk management structure compared with large enterprises create more risks for them when they intend to internationalize (Joo & Pak, 2017). For instance, SMEs need to increase their production capacity when operating in international markets (Ključnikov *et al.*, 2022a). However, larger production capacity requires different operational activities that can increase the operational risk of SMEs. Moreover, insufficient human and financial resources increase SMEs' personnel and strategic chances, which are other significant risk

factors that SMEs face in international markets (Buganová *et al.*, 2023). In this regard, SMEs having a proper risk management process that enables them to improve their strategic, operational, and personnel risk management capabilities can increase their success in exporting activities. Thus, this paper aims to analyze whether strategic, operational, and personnel risk management positively impacts SMEs' exports.

Exporting enables businesses to trade beyond the borders of countries (Mendy & Rahman, 2019) and is the most popular entry mode in the internationalization of SMEs. This is because it provides cheaper, easier, and quicker internationalization options for these enterprises (D'Angelo *et al.*, 2013). However, SMEs face many obstacles when performing their exporting activities. Some studies categorize export obstacles as internal and external (Rodriguez *et al.*, 2010; Leonidou, 2004), and these barriers create risks for enterprises when doing export. Leonidou (2004) divides internal export barriers as informational, functional, and marketing, while functional barriers include enterprises' human resource, functional, and production issues that increase their personnel, strategic, and operational risks, respectively. For instance, companies lacking skilled labor face troubles in their export operations related to their personnel risk (Leonidou, 2004). Firms can control internal risk factors since they are able to manage their human resources and operational activities and can implement effective strategies that reduce their personnel, operational, and strategic risks (Kotaskova *et al.*, 2020). For this reason, personnel, strategic, and operational risks can also be called controllable risk factors (Rodriguez *et al.*, 2010; Mishra *et al.*, 2019).

International diversification (Elango, 2010), wait and see (Clarke & Liesch, 2017), mergers and acquisition (Chittoor *et al.*, 2019) strategies will be considered as strategic risk management approaches in this paper when analyzing the impact of strategic risk management on firms' export attitudes. Moreover, since operational risk management enables businesses to fix IT-related (Mishra *et al.*, 2019; de Araújo Lima *et al.*, 2020) and production-related problems, including product innovation, logistics, and supply chain processes (Fleury *et al.*, 2012), this paper will focus on these activities of businesses when working on the effect of operational risk management on export. Personal risk is another important factor that determines SMEs' success and is highly related to enterprises' human resource management practices and their management of personnel activities in various departments (Kotaskova *et al.*, 2020). For this reason, human resource manage-

ment will also be considered under the personnel risk management concept in this paper.

Businesses having these risk management capabilities can increase their export performance (Catanzaro & Teyssier, 2021; Stoian & Rialp-Criado, 2010; Lee & Wang, 2023; Nasr *et al.*, 2011) and other internationalization activities (Ciabuschi *et al.*, 2019; Lafuente *et al.*, 2015). Risk management capabilities allow enterprises to identify and analyze risk factors and then take effective actions to minimize the negative impacts of these risk factors (Lee & Wang, 2023). These risk management capabilities can also be conceptualized under a more holistic approach for managing strategic, personnel, and operational risks, namely, Enterprise Risk Management (ERM). ERM concept provides a holistic and coherent systematic approach to managing various risks (Bogodistov & Wohlgemuth, 2017), including strategic, personnel, and operational risks. This is because ERM is a process that integrates some activities such as the management of personnel, the creation of firm strategy, and the identification of firm operations (Committee of Sponsoring Organizations of the Treadway Commission, 2004) that are closely linked to firms' personnel, strategic and operational risk management practices, respectively (Bakos & Dănut, 2021). These risk management practices give competitive advantages for enterprises because they are not only challenging to imitate by other firms, but also valuable and rare (Catanzaro & Teyssier, 2021), as already identified in Resource-based View (RBV) (Civelek *et al.*, 2023). For this reason, the risk management practices that a company sets are firm-specific characteristics and cannot be implemented by other firms, and this fact is in line with the arguments of Resource-based View theory (Yakob *et al.*, 2020).

Enterprise Risk Management (ERM) has also been conceptualized under RBV as a dynamic capability by various researchers (Nair *et al.*, 2014; Yakob *et al.*, 2020), since it is a dynamic process that highlights the usage of firms' internal resources to take effective actions against various risk factors stemming from firms' changing conditions (Mishra *et al.*, 2019; Yakob *et al.*, 2020; Catanzaro & Teyssier, 2021). Therefore, ERM practices are dynamic capabilities that firms must have to respond to rapidly changing environments (Wai *et al.*, 2022). Dynamic capabilities consist of some abilities to manage firms' human resources, processes, operations, and strategies that improve firms' financial performance (Al-Aali & Teece, 2014). For instance, dynamic capabilities enable firms to make rapid market changes depending on customers' demand, such as producing new products, or other activ-

ities, such as alliance formation and strategic decision-making (Mishra *et al.*, 2019). Dynamic capabilities also positively contribute to firms' internationalization (Wai *et al.*, 2022). Catanzaro and Teyssier (2021) also find that, by being dynamic capabilities, the risk management capabilities of SMEs positively influence the firm's international performance, including FDI.

Although the effect of risk management capabilities on internationalization of SMEs has been analyzed by various researchers (Stoian & Rialp-Criado, 2010; Lee & Wang, 2023; Nasr *et al.*, 2011; Ciabuschi *et al.*, 2019; Lafuente *et al.*, 2015) none of these researchers have implemented a more holistic approach for risk management practices and have included more internal and controllable risk factors such as strategic, operational and personnel risk management in a sole paper. Moreover, these studies have not investigated the international differences in the impact of various risk management capabilities on the export intention of SMEs. For this reason, this paper is the first to link the management of multiple internal/controllable risk factors with the internationalization process of SMEs. This paper's main theoretical contribution is also the defined link between the internal/controllable risk category and its link to RBV theory's dynamic capability. Thus, this paper also expands the scope of dynamic capabilities regarding managing internal/controllable risk factors. In addition to that, this paper also has an international perspective, since it compares the specified effect from SMEs of various European countries.

Considering these arguments, this paper focuses on the following research questions: "What is the influence of multiple internal/controllable risk management capabilities on SMEs' export intentions?" and "Does the effect of internal/controllable capabilities on export intention differ depending on the country of origin of SMEs?" This paper investigates 1221 SMEs from Czechia, Slovakia, and Hungary in line with these arguments. The researchers use a random sampling method to choose firms from different databases. The researchers sent the respondents the link to an internet-mediated questionnaire and analyzed the research data by performing a Binary Logistic Regression test.

Buganová *et al.* (2023) analyze risk management practices of Visegrad countries and declare the similarities in SMEs' perception of various risk factors. These authors state that operational risk is the fifth most common risk that Hungarian, Slovakian, and Czech SMEs face. Although it seems that SMEs from the Czech Republic, Slovakia, and Hungary face similar socio-economic conditions and operate in similar entrepreneurial environ-

ments (Kolková & Ključnikov, 2021; Ključnikov *et al.*, 2022a), SMEs in those countries can have different management approaches and intensions for different kinds of risk factors that affect their export. This is because legal, economic, and political risks, as well as cultural values differently affect SMEs' behaviors in various countries (Ključnikov *et al.*, 2020), their performance (Virglerova *et al.*, 2020), risk tolerance (Rahman *et al.*, 2020) and export activities (Ključnikov *et al.*, 2022b).

Concerning legal issues, Civelek *et al.* (2022) confirm that Czech SMEs perceive legislative export obstacles more intensively than Slovakian firms. To sum up, although Czechia, Slovakia, and Hungary have similar characteristics, various economic, legal, and cultural factors in these countries can form and differentiate SMEs' internal/controllable risk management approaches. For this reason, multiple risk management practices of SMEs in various countries might affect their export intention differently. Analyzing the country-level differences in the specified effects and finding differences among SMEs from different nations can be a catchy topic for international readers. They can benefit from the results of such a unique study.

The rest of the paper is structured as follows: The Literature Review section provides details regarding the results of previous studies in the analyzed topics. This paper will give information about the researchers' methodological approaches and the analyzed data in the Research Methods section. The results of the paper will be presented in the Results section, while the results and some policy implications will be discussed in another section, namely, Discussion. The most critical points of this paper will be summarized in the Conclusions section, and the study's limitations will be explained in this section with recommendations for new studies.

## **Literature review and hypotheses development**

Strategic risk management is an integrated process of determining and measuring risks that might stem from firms' reputations (Mishra *et al.*, 2019; de Araújo Lima *et al.*, 2020) and plans or projects. Firms improving business processes can also reduce export obstacles (Civelek & Krajčák, 2022). Different from operational risk management, strategic risk management is a long-term decision-making process that stimulates business development on a long-term basis (Fudaliński,

2015). The coordination of firms' departments regarding firms' objectives will also increase the strategic adaptation of enterprises (Kan, 2022). Firms implementing aggressive strategic risk management practices receive competitive advantages and are successful in product development and accessing new markets. For this reason, strategic risk management activities also enable firms to improve their financial performance (Catanzaro & Teyssier, 2021).

International diversification is an example of a firm's strategic risk management practice, since firms can minimize risks, increase their income, and take more competitive and responsive actions against their rivals from various markets. For instance, in the case of operating in a market that has an increasingly competitive environment, a firm can apply a strategy of withdrawing its operations in this market and then move to another one. By doing so, firms can respond to this changing condition and reduce this risk through internationalization. This strategic choice and its results for the firm are excellent examples of dynamic processes (Elango, 2010). This is because strategic risk management is also a dynamic process that requires permanent working attitudes and the usage of firms' internal strategic sources to respond to frequent organizational changes (Fudaliński, 2015). Thus, various researchers have conceptualized strategic risk management under RBV (Ciabuschi *et al.*, 2019).

Various researchers have also linked Strategic risk management with the internationalization process (Boustanifar *et al.*, 2022). For instance, Nasr *et al.* (2011) analyze some firms from Iran and confirm that firms seizing opportunities that governments provide for export are successful when doing export. By analyzing firms from the US market, Elango (2010) verifies the positive impact of the international diversification strategy of firms and their internationalization and the negative relationship between strategic risk and internationalization. Ciabuschi *et al.* (2019) identify manufacturing reshoring as an action of firms to minimize strategic risk in the internationalization of enterprises. Clarke and Liesch (2017) analyze the US market and declare that firms might prioritize or delay some actions to minimize unexpected outcomes of firms' internationalization. For instance, if a firm perceives that entering a market is risky, then the firm can form some alliances, a joint venture, or a merger agreement with other firms to minimize the risk. Thus, a wait-and-see strategy is an essential action of firms for their strategic risk management process (Clarke & Liesch, 2017). Furthermore, Chittoor *et al.* (2019) analyze some firm executives from Indi-

an manufacturing firms and declare the role of executives' strategic risk-taking attitudes on firms' internationalization process. When executives feel more accessible in the decision-making process and have more power, their strategic decisions become more risky for the internationalization of their companies. However, when executives work with key stakeholders and implement some strategies these people accept, firms can be more successful when taking actions in the internationalization process, including strategic changes such as mergers and acquisitions (Chittoor *et al.*, 2019). For these reasons, firms implementing various strategies, such as wait-and-see, international diversification, and having alliances with other firms, can have effective strategic risk management capabilities that might positively affect their export. These arguments enable this paper to set the following hypothesis:

H1. *Strategic risk management has a positive effect on the SMEs' export intention.*

Operational risk mainly occurs when there is an inconsistency between business operations and expected results (Ko *et al.*, 2019). Thus, operational losses increase companies' operational risk and negatively affect their performance (Mishra *et al.*, 2019; Ko *et al.*, 2019). Operational risk can be defined as a loss that might stem from problems in companies' internal business processes and systems (Ko *et al.*, 2019). Although these operational risk factors stem from firms' current operations and are short-term based, they cause general losses for enterprises (Fudaliński, 2015). Operational risk factors are related to misusing production facilities and technologies in business processes (Mishra *et al.*, 2019; de Araújo Lima *et al.*, 2020). Mitigating technical issues, including hardware or software breakdowns or programming errors, is an effective way for enterprises to reduce their operational risks and increase firm performance (Lozano-Torró *et al.*, 2019; Ko *et al.*, 2019).

Production-related operational issues include manufacturing, logistics, and supply chain management processes (Fleury *et al.*, 2012). For instance, firms having coordination and transportation issues with their providers face more risks concerning logistics and supply chain processes (Rodríguez *et al.*, 2010; Damert *et al.*, 2021). These facts cause businesses to have inconsistent production plans since providers can delay the transportation of firms' raw materials (Rodríguez *et al.*, 2010). Coordination issues of firms with their suppliers also cause troubles in firms' quality and monitoring



processes (Damert *et al.*, 2021; Olivares Tenorio *et al.*, 2021). All these problems also create barriers to enterprises' exports (Leonidou, 2004). For these reasons, firms need to be able to manage their operational risks.

Operational risk management capabilities are identified under dynamic capabilities (Al Nuaimi *et al.*, 2023). This is because operational risk includes firms' current production-related issues. Firms can find quick solutions for these issues by using their own resources and innovative abilities linked to Resource-based View (D'Angelo *et al.*, 2013). Product innovation is also a dynamic process, since it enables firms to fulfill the demands of their customers quickly. This capability allows firms to generate new ideas, goods, and services (Civelek *et al.*, 2021). Product innovation capability positively impacts SMEs' performance (Rigelsky *et al.*, 2022).

By examining SMEs from various markets, some researchers also highlight the positive impact of product innovation on export (Jusufi *et al.*, 2020; Kliuchnikava, 2022) and the internationalization of SMEs (Ključnikov *et al.*, 2021). Furthermore, Cieślik and Michałek (2017) examine firms from some European and Central Asian countries and verify the positive impact of process and product innovation on enterprises' exports. Fleury *et al.* (2012) also examine firms from Brazil and find that operational risk management capabilities, including the minimization of issues in manufacturing, logistics, and supply chain processes, are crucial for the internationalization of enterprises. Moreover, Damert *et al.* (2021) investigate enterprises from 36 countries, including the USA, the UK, Japan, and Germany, and find that firms implementing more supply chain practices for their operations are more likely to be internationalized. Similarly, Olivares Tenorio *et al.* (2021) analyze Colombian firms and confirm the positive association between firms' supply chain practices and their internationalization. The findings of the studies that are mentioned above make this research to generate another hypothesis as follows:

H2. *Operational risk management has a positive effect on the SMEs' export intention.*

Issues regarding personnel risk (human resource management practices) in an organization stem from the nonexistence of specialized and competent workers (Bakos & Dănut, 2021; Makhmadshoev & Laaser, 2022), the nonexistence of practical training (Leonidou, 2004), the nonexistence of the determination of job tasks in firms, the existence of working disputes

among employees (Catanzaro & Teyssier, 2021) and high employee turnover in an organization (Kotaskova *et al.*, 2020). Exporting SMEs have also encountered these problems: exceptionally high employee turnover and worker disputes have made skilled employees migrate to other countries (Makhmadshoev & Laaser, 2022). Similarly, Mendy and Rahman (2019) have confirmed the negative impacts of language, the shortage of skilled labour, and training activities on the internationalization of SMEs.

In this regard, firms with effective training programs can minimize personnel risk since they develop the skills and experience of their workers in these programs (Kotaskova *et al.*, 2020; Hamzah *et al.*, 2022). Some firms also develop their workers' abilities through work shadowing, enabling new employees working with experienced workers to learn business processes. Firms providing reward and incentive systems can also motivate their workers and increase the performance of employees (Makhmadshoev & Laaser, 2022). Moreover, firms developing their workers' abilities (Hamzah *et al.*, 2022) and having an international human resource profile improve their success and competitiveness (Lozano-Torró *et al.*, 2019). Furthermore, firms that define standards for hiring or firing their workers provide training for all employees and determine their performance targets and responsibilities, as well as inform their workers of business policies and processes can achieve better personnel risk management. (Hamzah *et al.*, 2022). Since these practices of companies increase the quality of firms' human resources, they can be conceptualized under RBV (Fudaliński, 2015; Mendy & Rahman, 2019).

Regarding the impact of personnel risk management on internationalization, González Calzadilla *et al.* (2022) analyze Spanish SMEs and highlight that the adequacy of human capital determines firms' success in internationalization. Similarly, Lozano-Torró *et al.* (2019) analyze firms in Spain's engineering industry and declare the importance of human resources in the internationalization of enterprises. In this regard, firms hiring adequate workers who have internationalization or export experience and have knowledge about target markets and their languages can improve their success in the internationalization process (Hamzah *et al.*, 2022; González Calzadilla *et al.*, 2022; Lozano-Torró *et al.*, 2019). Moreover, Mendy and Rahman (2019) analyze SMEs in Bangladesh, confirm the positive impact of talent and skill management on the internationalization of SMEs, and declare the importance of skilled labor and educational and training activities in internationalization. Like Mendy and Rahman (2019),

D'Angelo *et al.* (2013) also confirm the positive impact of skilled labor on the export of Italian manufacturing firms. According to D'Angelo *et al.* (2013), hiring skilled workers for innovative processes also provides competitive advantages for companies when doing export. In line with the results of these studies, this research creates the last hypothesis, as presented below:

H3. *Personal risk management has a positive effect on the SMEs' export intention*

## **Research methods**

This paper investigates whether SMEs' strategic, operational, and risk management capabilities positively affect their export intention. The conceptual model and the hypotheses of this research are illustrated in Figure 1, which is located in Annex. Moreover, the authors aim to find international differences in these specific effects of risk management capabilities on export intention.

This paper analyzes 1221 Czech, Slovak, and Hungarian SMEs to hit this research target. The researchers applied a random sampling method to create samples from the Cribis database (for Czech and Hungarian samples) and the Budapest Chamber of Commerce database (for Hungarian samples). Firstly, the researchers selected 8750 Czech, 10100 Slovak, and 8750 Hungarian SMEs. Firms with fewer than 250 workers (this is the classification of SMEs depending on the number of workers) are identified and then numbered in line with the alphabetical order. After numbering, the researchers use the *Randbetween Math* function, and the range is fixed from 1 to the highest number. Then, randomly created numbers are given to each survey participant. Ultimately, the researchers made the randomly chosen survey participants fulfill the same survey for all Czech, Slovak, and Hungarian samples. The online questionnaire respondents are the firm's executives, managers, or owners of SMEs.

Due to their size, most SMEs' decision-making processes depend on their owners or managers, whose perceptions are vital for risk management approaches and export intention of these firms. Therefore, firm executives' risk perception and tolerance can determine SMEs' exporting behaviour (Stoian & Rialp-Criado, 2010). Moreover, executives' risk knowledge and attitude can also determine risk management approaches (de Araújo Lima

*et al.*, 2020) and the investment strategy of enterprises (Shpak *et al.*, 2022). For instance, firms with risk-averse managers might be less likely to perform internationalization activities (Boustanifar *et al.*, 2022). For these reasons, this paper emphasizes the perceptions of firm executives when analyzing the impacts of risk management capabilities on SMEs' export intention. This is the reason why the respondents of the survey are selected by purposive sampling method, and the survey is directed to firms' managers or owners.

Concerning the details of the questionnaire, it includes different questions to be informed about the characteristics of firms and firms' executives and to evaluate the risk management capabilities of the respondents. The survey questions that measure SMEs' strategic, operational, and personnel risk management capabilities and export intention are shown in Table 1 in the Annex. Virglerova *et al.* (2020), Dvorský *et al.* (2020), and Belas *et al.* (2021) have already substantiated the reliability and validity of the constructs for strategic, operational, and personnel risk management. Moreover, export intention is measured by a dichotomous question (It is presented in Table 1) by following some researchers (Lafuente *et al.*, 2015; Elia *et al.*, 2021). According to these researchers, the respondents who answer the survey question regarding export as "Yes" are identified as exporters and vice versa. For this reason, this paper will use the same approach when determining firms' exporting status. This paper also performs Binary Logistic Regression tests for data analyses since the dependent variable, export intention, is a dichotomous variable. The research models are presented as follows:

1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Binary Logistic regression models:

$$Y_1 = (\beta_0 + \beta_1 X_1) \quad (1)$$

where:

- $Y_1$      Dependent variable (export intention);
- $X_1$      Independent variable (Strategic Risk in the 1<sup>st</sup>, Operational Risk in the 2<sup>nd</sup>, Personal Risk in the 3<sup>rd</sup> research model);
- $B_1$      Regression coefficients;
- $\beta_0$      Constant or intercept term.

The researchers also performed some analyses to test the assumption of Logistic Regression. The authors focus on the volumes from Goodness of fit and Test of Parallel Lines indicators illustrated in Table 2. The researchers consider a 5% significance level for assumption testing. As shown in Table 2, P values (written under Model fitting column) are only significant for Czech and Hungarian sample in Model 1 (For instance: Czech sample Model 1 =  $\chi^2(1) = 8.442$ , p-value < 0.05; Hungarian sample Model 1 =  $\chi^2(1) = 3.881$ , p-value < 0.05) and for Hungarian sample in Model 2 (Hungarian sample Model 2 =  $\chi^2(1) = 5.986$ , p-value < 0.05). In this regard, it can be stated that adding strategic risk management into the first research model for Czech and Hungarian samples improves the model's estimation power for changes in the dependent variable. Similarly, the addition of operational risk management into the second research model for the Hungarian sample has made this model more predictive of the changes in the dependent variable.

Regarding the results from Goodness of fit, the volumes from Nagelkerke will be considered. The volumes from this indicator show the percentage of changes that independent variables cause in the outcome variable. For instance, the strategic risk management variable in the first research model explains 2.5% and 1.4% (These volumes are written under the Nagelkerke indicator in Table 2 as 0.025 and 0.014, respectively) changes in the export intention of Czech and Hungarian samples, respectively. Moreover, the addition of operational risk management in the second research model represents 2.2% of changes in the export intention of the Hungarian sample.

The researchers consider the values from Durbin Watson's test statistics to show whether or not the Independence of Errors assumption is violated. The values close to 2 indicate no relationship between the cases and the data and autocorrelation between the residual terms. Since the volumes that are presented under Durbin Watson test statistics column in Table X are close 2 for all of the research models of Czech and Hungarian samples (For instance, they are 1.913 and 1.833, respectively, for the first research model of Czech and Hungarian samples), this paper fulfills the Independence of Errors assumption for Czech and Hungarian samples.

This paper analyzes the Linearity assumption by focusing on the interaction term between the independent variable and its log transformation. Having P values (Sig. in Table 3) that are more significant than a 5% significance level enables this assumption to be fulfilled. As illustrated in Table 3,

p values (Sig.) are higher than the selected significance level (they differ between 0.053 and 0.878). Therefore, this paper does not violate the Linearity assumption. On the other hand, this paper does not test the Multicollinearity assumption due to having only a predictor variable in all research models. To sum up, since this paper does not violate the assumption of the Logistic Regression Test, especially for Czech and Hungarian samples, it is appropriate to employ the Binary Logistic Regression Test to achieve its objective.

The researchers also chose a 5% significance level to test hypotheses. Thus, the researchers support the hypotheses when p values are lower than this level. On the other hand, when p values are more significant than the 5% significance level, the researchers fail to support null hypotheses that assume the nonexistence of the positive effects of strategic, operational, and personnel risk management capabilities on SMEs' export activities.

Concerning the sample profile, the sample includes 454 Czech, 368 Slovak, and 399 Hungarian SMEs. At the same time, most firms are microenterprises in all research samples (63.88%, 58.70%, and 67.17% of SMEs are microenterprises in Czech, Slovak, and Hungarian samples, respectively). Moreover, most SMEs have been operating for over ten years (73.79%, 71.47%, and 63.16% of Czech, Slovak, and Hungarian SMEs, respectively, have operated for over ten years). Regarding the respondents' characteristics, most executives are older than 45 (61.45%, 60.60%, and 51.63% of Czech, Slovak, and Hungarian respondents, respectively, are older than 45 years old). On the other hand, while a majority of Czech respondents have less than a bachelor's degree (50.88% of Czech respondents), a majority of Slovak and Hungarian executives have a minimum bachelor's degree (79.35% of Slovak respondents, and 83.21% of Hungarian respondents have minimum bachelor's degree).

## **Results**

The results of this paper are presented in Table 4. Regarding strategic risk management (1<sup>st</sup> research model), while it is a statistically significant predictor of export intention of Czech ( $\beta = 0.353$ , Wald  $\chi^2 = 8.098$ ,  $p = 0.004 < 0.05$ ) and Hungarian SMEs ( $\beta = 0.305$ , Wald  $\chi^2 = 3.867$ ,  $p = 0.049 < 0.05$ ), it is not a significant predictor of export intention of Slovakian SMEs ( $\beta = -0.166$ , Wald  $\chi^2 = 1.647$ ,  $p = 0.199 > 0.05$ ) since P-value for Slovakian sample is high-

er than 5% significance level. In this regard, the coefficient of strategic risk management for a Slovakian sample is not significantly different from 0. On the other hand, the coefficients ( $\beta$ ) of strategic risk management for Czech and Hungarian samples are both significant and positive, 0.353 and 0.305, respectively. A-unit increase in strategic risk management of Czech and Hungarian SMEs causes increases in the odds of occurrence of doing export by 0.353 and 0.305, respectively. In other words, exporting activity is 0.362 and 0.305 times more likely to occur, respectively, for the Czech and Hungarian SMEs that are more effective in strategic management compared to their less effective counterparts. This result shows that higher values of strategic risk management are associated with more significant possibilities to do export. Thus, when Czech and Hungarian SMEs have more significant value from strategic risk management, they have higher possibilities to export. For this reason, this paper supports the H1 hypothesis for Czech and Hungarian samples, while it fails to support this hypothesis for the Slovakian sample.

Regarding the results of the second research model, Hungarian SMEs' operational risk management capabilities positively affect their export intention (Hungarian sample:  $\beta = 0.455$ , Wald  $\chi^2 = 5.893$ ,  $p = 0.015 < 0.05$ ). An increase in operational risk management of Hungarian SMEs by a unit, 0.455 times higher the odds of occurrence to do export. Thus, Hungarian firms with greater values from operational risk management are more likely to do export. In this context, this paper corroborates the H2 hypothesis for the Hungarian sample. On the other hand, due to having insignificant  $p$  values for Czech and Slovakian samples (0.150 and 0.830, respectively), the non-existence of a statistically significant impact of operational risk management capability of Czech and Slovakian SMEs on their export activities has been verified by this paper. For this reason, this paper fails to support the H2 hypothesis for Czech and Slovakian SMEs; thus, it confirms the differences between Hungarian and Czech-Slovakian SMEs.

As depicted in Table 4, personal risk management is not a significant predictor of export activities of SMEs (Czech sample:  $\beta = 0.120$ , Wald  $\chi^2 = 1.241$ ,  $p = 0.265 > 0.05$ ; Slovak sample:  $\beta = -0.032$ , Wald  $\chi^2 = 0.078$ ,  $p = 0.780 > 0.05$ ; Hungarian sample:  $\beta = -0.162$ , Wald  $\chi^2 = 1.458$ ,  $p = 0.227 > 0.05$ ). Therefore, Czech, Slovakian, and Hungarian SMEs' personal risk management perceptions indicate similar patterns and do not significantly contribute to their exporting activities. Although this research fails to

support the H3 hypothesis, it confirms similar results in the international context.

## **Discussion**

As mentioned in the Results section, personnel risk management does not positively impact the export intention of Czech, Slovak, and Hungarian SMEs. In this regard, this result is not compatible with the findings of González Calzadilla *et al.* (2022), Lozano-Torró *et al.* (2019), Mendy and Rahman (2019), and D'Angelo *et al.* (2013) that confirm the positive impact of personnel risk management practices of firms on internationalization and export of firms from various markets including Spain, Bangladesh, and Italy.

Since the insignificant effect of personnel risk management on the exporting activities of SMEs is confirmed for all research samples, including Czech, Slovakian, and Hungarian samples, this paper does not confirm international differences in this effect. This paper finds results similar to those of Kotaskova *et al.* (2020) that analyze the differences between Czech and Slovakian SMEs regarding the impact of personnel risk on firm activities and confirm the similarities between these countries' companies. The working experience of the workers in the analyzed firms might be the reason for this result. Since more than 63% of SMEs in the Czech, Slovak, and Hungarian samples have operated for more than ten years, they might have well-experienced employees working adequately and do not harm the businesses, so the export intention of companies. Thus, firms might not need to implement aggressive personnel risk management strategies that positively affect their export activities.

However, there are various results in other relationships, and the differences exist between countries. For instance, while Czech and Hungarian firms that are more effective in strategic risk management do more exports than their less effective counterparts, strategic risk management does not determine the export activities of Slovakian SMEs. Thus, while the positive effect of strategic management on the export intention of SMEs is confirmed for the Czech and Hungarian samples, this effect is not significant for the Slovakian sample. In this regard, while this paper's results for Czech and Hungarian samples does not oppose to the arguments of Elango (2010), Ciabuschi *et al.* (2019), Clarke and Liesch (2017), and Chittoor *et al.* (2019), the result of this paper regarding Slovakian sample is not compati-



ble with these studies that substantiate the positive affect of strategic risk management practices on export and internationalization of enterprises.

Concerning the international differences in the impact of strategic risk management, this paper's result is inconsistent with the study of Virglerova *et al.* (2020). While Virglerova *et al.* (2020) emphasize Slovakian firms' greater strategic management practices in internationalization activities than Czech and Hungarian firms, this paper has a reverse situation by verifying the opposite results. This international difference in the analyzed effect might be related to individualist/collectivist attitudes in those nations. This is because Kreiser *et al.* (2010) express the fact that people living in a collectivist society are more risk-averse people living in an individual society. According to Hofstede Insights (2022), although Slovakia cannot be identified as a collectivist or an individualistic society, the Czech Republic and Hungary can be called individualistic societies. Since Czech and Hungarian people are more interested in taking risks, they can become more effective in strategic risk management than their Slovakian counterparts, and this ability might have made Czech and Hungarian SMEs tend to do more exports.

Regarding operational risk management and export, while Hungarian SMEs that are more effective in operational risk management do export, operational risk management does not determine the exporting activities of Czech and Slovakian SMEs. Thus, a positive significant impact of operational risk management on the export intention of firms is only substantiated for the Hungarian sample. Within this context, this paper finds similar results to the Jusufi *et al.* (2020), Cieřlik and Michatek (2017), Fleury *et al.* (2012), Damert *et al.* (2021) and Olivares Tenorio *et al.* (2021) that confirm positive effects of some operational risk management practices on internationalization and export activities of businesses from various countries including Kosovo, some Central European and Asian countries, Brazil, the UK, USA, Germany, Japan and Colombia. However, the results of this paper for Czech and Slovakian samples are incompatible with the studies mentioned above. Moreover, since this paper confirms international differences regarding the effect of operational risk management, this finding opposes the result of Bugarova *et al.* (2023), which supports similarities in operational risk approaches of Czech, Slovakian, and Hungarian SMEs.

The quality of institutions and legal systems might be the reason for international differences in the positive impact of operational risk management on the export intention of SMEs. This is because firms operating in

countries with poor institutional quality and legal systems can face more difficulties when managing operational risks (Ullah *et al.*, 2019). In this regard, The strength of the legal rights index can be considered since it shows the quality of legal institutions. Higher values from this index represent that laws in a country have more sanction power to make companies implement more effective risk management strategies to survive. According to the World Bank (2022), while Hungary's score from this index is 9, the score of Slovakia and Czechia is 7 (The top volume is 12). For these reasons, it might be assumed that Hungarian laws are forceful enough to make Hungarian SMEs apply more effective operational risk management practices than Slovakian and Czech SMEs. Thus, firms in Czechia and Slovakia can have more trouble regarding operational risk management practices that limit their export activities.

## **Conclusions**

Since countries' political, economic, and legal systems differ, firms, especially SMEs, face various obstacles to internationalization. This is because of their lack of financial and human resources. However, SMEs that effectively manage internal/controllable risk factors can reduce impediments in their internationalization process. This paper aims to explore whether SMEs' strategic, operational, and personnel risk management positively affects their export intention. Moreover, this paper investigates the international differences in the effect of internal/controllable risk management capabilities on the export of SMEs.

In line with this selected aim, the researchers analyzed randomly selected 1221 Czech, Slovak, and Hungarian SMEs. The researchers have also created an online questionnaire and evaluated the survey participants' responses for analysis purposes. When analyzing the impacts of enterprise risk management capabilities on export intention, the researchers run Binary Logistic Regression tests.

According to the results, personnel risk management does not positively influence the export activities of SMEs. This result might be related to a firm-level characteristic, namely, the length of doing business. On the other hand, this paper only confirms the positive impact of strategic management on the export intention of Czech and Hungarian SMEs. A cultural difference, namely the differences in countries' Individualistic/collectivistic

nature, might be a solid argument to explain the differences in this specific effect. Moreover, this paper finds the positive impacts of operational risk management on export intention only in the Hungarian sample. This result might stem from the quality and the strength of the legal rights in this country.

Due to a lack of financial and human resources, SMEs are more vulnerable than larger enterprises. Since they have these disadvantages, they more intensively perceive risks that stem from different factors, including strategic, operational, and human resource management activities. SMEs can cope with these issues by having a proper risk management process that enables them to separate risk management activities into the different functions of businesses. Although most of the risk management activities have been performed by owners of SMEs, these enterprises need to divide these activities and confer the related responsibilities to well-experienced workers. For instance, SMEs can hire a talented and experienced human resource manager, who can implement practical training and educational activities for workers to minimize personnel risk. Human resource professionals who have international firm experience can also educate workers of SMEs on socio-cultural differences.

SMEs can also benefit from other firms that work in similar industries by locating their businesses close to their rivals. By doing so, they can hire talented and well-experienced workers from their rivals. Moreover, by locating their businesses next to their suppliers, SMEs can minimize transportation costs and have easier access to raw materials. By making such an effective strategic decision, SMEs can reduce their personnel risk and operational issues in production processes.

As mentioned, this paper not only provides a concept that links the management of internal/controllable risk factors under enterprise risk management (ERM) and RBV, but also integrates this concept with the export intention of SMEs. Moreover, this unique study has also performed international comparisons in this specific integration. For these reasons, this paper significantly contributes to ERM and RBV approaches. However, there are some limitations in this study. For instance, this paper is limited to managing internal/controllable risk factors, firms from the SME segment, and one of the internationalization strategies of businesses, namely, export. In this regard, new studies should not only include the management of not only internal/controllable risk factors but also include external/uncontrollable risk factors in a sole paper. These studies can also look

at the impact of managing these risk factors on export and other internationalization strategies such as foreign direct investment, indirect export, franchising, and licensing. Since implementing these internationalization strategies can be more costly for SMEs, researchers can include large enterprises in their research sample. This paper also analyzes three Visegrad countries, but does not analyze a sample from the biggest market of Visegrad countries, namely Poland. Researchers can make analyses not only for Czechia, Slovakia, and Hungary, but also for Poland to overcome this limitation. By doing so, the scope of their papers might be more comprehensive.

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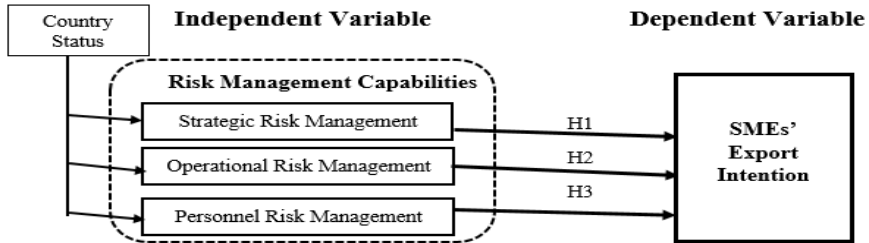
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## Annex

**Figure 1.** Conceptual model



**Table 1.** Variables and measurements

Variables	Measurements	
Strategic Risk	Strategic management in a company is an integral part of corporate governance. Strategic management is implemented in everyday life of our company and through action plans and programs. Proper strategic management improves the competitive ability of our company and its stability on domestic and foreign markets. Our company regularly monitors, evaluates and manages strategic risks.	Dvorský <i>et al.</i> (2020); Gavurova <i>et al.</i> (2020); Belás <i>et al.</i> (2021)
Operational Risk	We use company capacities at a sufficient level. We place great emphasis on the innovation of our products and services, and it is positively reflected in the stability and performance of the company. The number of possible requests for specific products/services has a downward trend. Our company is not dependent on a limited number of suppliers.	Dvorský <i>et al.</i> (2020)
Personal Risk	Personnel risk in the company is considered adequate and does not harm my business. Employee turnover is low and has no negative impact on my business. The error rate of employees is low and has no negative impact on my (our) business. Our employees are competitive and strive to improve their performance.	Dvorský <i>et al.</i> (2020)
Export	Do you export your products and services abroad?	Lafuente <i>et al.</i> (2015); Elia <i>et al.</i> (2021)

**Table 2.** Assumption testing

Assumptions		Model fitting				Goodness of fit Pseudo R-square		Independence of Errors
Country Models		-2 Log likelihood	Chi-Square	df	P value	Cox & Snell	Nagelkerke	Durbin-Watson test statistics
Czech	Model 1	584.353	8.442	1	0.004	0.018	0.025	1.913
Slovak	Model 1	506.933	1.657	1	0.198	0.004	0.006	1.362
Hun	Model 1	464.066	3.881	1	0.048	0.010	0.014	1.833
Czech	Model 2	590.724	2.071	1	0.150	0.005	0.006	1.888
Slovak	Model 2	508.544	0.046	1	0.830	0.000	0.000	1.363
Hun	Model 2	461.960	5.986	1	0.014	0.015	0.022	1.814
Czech	Model 3	591.555	1.240	1	0.265	0.003	0.004	1.899
Slovak	Model 3	508.512	0.078	1	0.780	0.000	0.000	1.366
Hun	Model 3	466.491	1.456	1	0.228	0.004	0.005	1.802

**Table 3.** Linearity assumption

Variable	$\beta$	S.E.	Wald	df	Sig.	Exp(B)
LOGISTIC REGRESSION MODEL-1						
Czech LinSRM by SRM	-0.239	0.189	1.601	1	0.206	0.787
Slovak LinSRM by SRM	-0.564	0.279	2.668	1	0.102	0.569
Hun LinSM by SRM	-0.641	0.332	3.729	1	0.053	0.527
LOGISTIC REGRESSION MODEL-2						
Czech LinORM by ORM	0.365	0.218	2.811	1	0.094	1.441
Slovak LinORM by ORM	-0.214	0.376	0.324	1	0.569	0.807
Hun LinORM by ORM	0.181	0.484	0.140	1	0.708	1.199
LOGISTIC REGRESSION MODEL-3						
Czech LinPRM by PRM	0.295	0.182	2.617	1	0.106	1.343
Slovak LinPRM by PRM	-0.092	0.218	0.178	1	0.674	0.912
Hun LinPRM by PRM	-0.039	0.257	0.024	1	0.878	0.961

Note: S.E.: Standard Error, df: Degree of freedom, Sig.: significance p-value, Lin: Linearity, SRM: Strategic risk management, ORM: Operational risk management, PRM: personal risk management

**Table 4.** The results of Binary Logistic Regression analyses for the 1st, 2nd, and 3rd research models

Country	Variable	$\beta$	SE	OR	95% CI	Wald Statistics	p
Czechia	Strategic Risk	0.353	0.124	0.703	[0.551 0.896]	8.098	<b>0.004</b>
	Constant	0.229	0.297	1.258		0.597	0.440
<b>Model-1: Export = 0.229 - 0.353*strategic risk</b>							
Slovakia	Strategic Risk	-0.166	0.130	0.847	[0.657 1.092]	1.647	0.199
	Constant	0.480	0.487	1.617		0.972	0.324
<b>Model-1: Export = 0.480 - 0.166*strategic risk</b>							
Hungary	Strategic Risk	0.305	0.155	0.737	[0.544 0.999]	3.867	<b>0.049</b>
	Constant	0.148	0.579	1.160		0.065	0.798
<b>Model-1: Export = 0.148 - 0.305*strategic risk</b>							

**Table 4.** Continued

Country	Variable	$\beta$	SE	OR	95% CI	Wald Statistics	P
Czechia	Operational Risk	0.201	0.140	1.223	[0.930 1.609]	2.071	0.150
	Constant	-1.007	0.315	0.365		10.247	0.001
<b>Model-2: Export = -1.007+ 0.201*operational risk</b>							
Slovakia	Operational Risk	-0.032	0.151	0.968	[0.720 1.301]	0.046	0.830
	Constant	-0.004	0.599	0.996		0.000	0.995
<b>Model-2: Export = -0.004 - 0.032* operational risk</b>							
Hungary	Operational Risk	0.455	0.187	0.634	[0.439 0.916]	5.893	<b>0.015</b>
	Constant	0.721	0.703	2.057		1.054	0.305
<b>Model-2: Export = 0.721 - 0.455* operational risk</b>							
Czechia	Personal Risk	0.120	0.108	1.128	[0.913 1.393]	1.241	0.265
	Constant	-0.889	0.296	0.411		9.031	0.003
<b>Model-3: Export = -0.889 + 0.120*personal risk</b>							
Slovakia	Personal Risk	-0.032	0.116	0.968	[0.771 1.216]	0.078	0.780
	Constant	-0.019	0.414	0.981		0.002	0.964
<b>Model-3: Export = -0.019 - 0.032*personal risk</b>							
Hungary	Personal Risk	-0.162	0.134	0.851	[0.654 1.106]	1.458	0.227
	Constant	-0.436	0.460	0.647		0.900	0.343
<b>Model-3: Export = -0.436 - 0.162*personal risk</b>							

Note: OR: Odds ratio, CI: Confidence interval.