Exploring the Impact of Internationalization on Firm Performance

The impact of Innovation and Gender of Owner on SMEs' performance in the Central Eastern European Context.

MSc Strategic Human Resource Leadership

2023 – 2024

12-08-2024

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Word count 12987

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Abstract

This research investigates the impact of internationalization on the performance of small and medium-sized enterprises (SMEs) in Central and Eastern European (CEE) countries, with a particular focus on the moderating effects of innovation and the gender of the firm owner. Using Ordinary Least Squares (OLS) regression analysis on data from the World Bank Enterprise Surveys was used leading to a sample of 7304 firms. The study reveals a positive relationship between internationalization and firm performance. The hypothesized moderating effects of innovation was supported as well. Surprisingly, the moderate effect of gender of the firm owner was not supported. These findings contribute to the existing internationalization literature by highlighting the unique challenges faced by CEE SMEs and the need for context-specific strategies. The study underscores the importance of supporting SMEs in their internationalization and innovative efforts through targeted policies and programs and calls for further research into the nuanced dynamics of and gender.

Keywords: Internationalization, Firm performance, Innovation, Gender firm owner, SMEs, Central Eastern European countries.

Chapter 1: Introduction

As a result of globalization, emerging and developed economies now interact more when it comes to social, political, and economic issues (Hoskisson et al., 2000; İlhan-nas, 2022). Moreover, Sandberg (2012) highlighted that rapid globalization has introduced novelties in the global business landscape, creating prospects for the internationalization of both small and medium enterprises (SMEs) and large firms. A prominent area of study in international business is the process through which companies expand their operations beyond domestic borders (Kraus et al., 2018). Motivated by the organizational learning theory, this study examines internationalization as a process where firms accumulate and apply knowledge gained from operating in diverse markets, enhancing their ability to adapt and succeed globally. According to this perspective, firms must acquire and effectively utilize experiential knowledge, including market, technological, and internationalization knowledge, to thrive in foreign markets (Cuervo-Cazurra et al., 2018; Bagheri et al., 2019). The process of internationalization is generally understood as the process of extending a firm's operations across national borders (Bose, 2016). In recent decades, the traditional focus has shifted from major manufacturing enterprises toward SMEs (Aghazade & Akhijahani, 2022). SMEs are developing as a key element of the global economy and contribute to the growth of international trade (Aghazade & Akhijahani, 2022). Despite numerous empirical studies investigating the relationship between internationalization and business performance, findings have been inconsistent. Research of Amin et al. (2024) claims that expanding a business into foreign markets leads to increased firm performance since it broadens the client base and improves the reputation of firms. Hsu et al. (2013) also shows a positive correlation between internationalization on firm performance in Taiwanese SMEs. At the other hand, Tu et al. (2020) did not find a positive significant result between internationalization and performance (Wan & Hoskisson, 2003; Lu & Beamish, 2006). Earlier research of McDougall and Oviatt (2000) found no relationship. These contrasting findings serve as the motivation for this study to evaluate the internationalization-performance link of SMEs.

It is important, when studying the effect of internationalization on business performance, to differentiate between SMEs and large firms (Benito-Osorio et al. 2016). SMEs typically have fewer resources to manage the increased requirements compared to larger MNEs, associated with engaging in cross-border trade (Pacheco, 2019). This is especially relevant for SMEs in Central and Eastern Europe (CEE). Most studies are carried out in developed countries and

focus on multinational corporations (Tu et al., 2020; Pacheco, 2019). Research shows discrepancies in the performance of CEE enterprises (Koles & Kondath, 2014) which continue to lag behind their western counterparts in the internationalization processes (Jarosiński, 2013).

As companies expand to global markets, they encounter opportunities for growth, gain insights from international markets, and achieve cost reductions in production by managing the uncertainties of the global environment (Contractor et al., 2007). However, internationalization can also negatively impact firm performance with companies experience risks and potential failures during international expansion (Benito-Osorio et al., 2016; Tu et al., 2020). Innovative practices help SMEs navigate international market challenges, differentiate themselves, and achieve sustainable growth (Child et al., 2017), as well as gain competitive advantage in foreign markets (Cassiman & Golovko, 2011). It is well understood that SMEs operating internationally often embrace innovative business models to enhance their ability to create value (Child et al., 2017) and adapt based on global market demands (Landau et al., 2016). Consequently, numerous scholars have explored this area, with several studies identifying a positive correlation between innovation and the growth and profitability of Firms (Golovko & Valentini, 2011; Albuquerque Filho et al., 2020). Specifically, Golovko and Valentini (2011) found empirical support of SMEs in Spain, indicating that combining international business activities with innovation can lead to increased sales growth. They later discovered that SMEs even seek innovation before entering the internationalized market (Golovko & Valentini, 2014). Moreover, previous research has demonstrated a positive link between internationalization and investments in R&D and technological infrastructure (Colovic & Lamotte, 2015; Pergelova et al., 2019). Rehman (2017) underscores the importance of innovation as critical factor for achieving successful internationalization. Innovation helps companies create unique products and services that can meet diverse market needs. Therefore, innovation is taken into account as moderator to see if it strengthens the relationship between internationalization and firm performance.

Vahlne & Johanson (2017) emphasize that managerial competence is crucial for growth and highlights the significant part leadership of the firm plays in making decisions about international business ventures. This aligns with the Upper-echelons theory which indicates that managers' and firm owners' ability to handle complexity and ambiguity from

international markets is critical, particularly in their roles in decision-making and information processing (Hambrick, 2007). Recent discussions by international bodies, such as the World Bank and World Trade Organization (2020), have highlighted the role of gender in influencing SMEs participation in international markets. Research by Expósito et al. (2022) has noted gender-specific differences in internationalization activities, indicating that women face more substantial barriers in accessing crucial resources for internationalization. In research of Tu et al. (2020) on Turkish firms, gender of the firm owner has been used as moderator showing that female managers diminish the relationship between internationalization and firm performance. This is in line with research of Garg and Shastri (2022) who found a significant moderating effect of gender of the owner and the decision to internationalize, with businesses owned by women being less inclined to do so. Ackah et al., (2020) also argue that female owners have a negative impact on the involvement in the international trade in the context of Ghana. However, research of Amin et al.(2024) in Pakistan found that the inclusion of women in top management brings resources to the table which actually improves the performance of firms. In line with these outcomes Faccio et al. (2016) emphasized that men and women exhibit different risk aversion behaviors which results in different influences from each gender on the firm performance. Depending on the leadership characteristics of a firm, the relationship between internationalization and firm performance may vary. The Upper-echelons theory of organizations has demonstrated the importance of the leadership positions, handling the complexity from the global markets (Tu et al. 2020). This research therefore asks if and how the moderating influence of the gender of the owner increases or diminish the impact of internationalization on firm performance.

1.1 Problem definition

In sum, extensive research has examined the relationship between internationalization and firm performance, but findings remain contradictory (Amin et al., 2024; Hsu et al., 2013; Tue et al., 2020; Geringer et al., 2000). They found that expanding internationally comes with certain risks that requires businesses to face additional costs that can outweigh the benefits which lowers the firm performance. Geringer et al. (2000) also showed a negative correlation between internationalization and firm performance in the case of MNEs.

In the context of the internationalization performance relationship there has been a relative lack of focus on SMEs (Bagheri et al., 2019; Pacheco, 2019). The studies that do consider SMEs often highlight the significant differences in internationalization strategies between

large firms and SMEs, due to disparities in resources, risk perception, and decision-making processes (Hernández & Nieto, 2016; Jansson & Sandberg, 2008 McDougall & Oviatt, 2000). As such, the empirical findings on the relationship between internationalization and firm performance based on samples of large firms may not apply to SMEs (Benito-Osorio et al., 2016). SMEs, with their limited resources, must rely more on the personal knowledge and capabilities of their decision-makers (Pacheco, 2019). While MNEs often focus on broad market penetration with standardized products and services, SMEs tend to target niche markets with specialized products. This strategic focus allows SMEs to leverage their flexibility and adaptability, enabling them to respond quickly to market changes and customer needs (Bagheri et al., 2019).

This thesis seeks to provide a clearer understanding of how internationalization efforts impact smaller and medium-sized firms addressing the ambiguity of the results in previous research. Recent studies have significantly advanced our understanding of the moderating variables that affect the relationship between internationalization and business performance (Hsu et al., 2013). Nonetheless, the specific role of gender, particularly in the context of firm owners and CEOs, remain understudied (Ramón-Llorens et al., 2017; Tu et al., 2020). However, most studies that did take into account the effect of gender on the process of internationalization demonstrate that male and female owners approach internationalization differently. Specifically, the studies indicate that female ownership may be associated with more cautious or less intensive approach to internationalization in various context, including Turkey, India and Ghana (Tu et al., 2020; Garg and Shastri, 2022; Ackah, 2020). This study addresses a gap in the literature on women's entrepreneurship to broaden the scope of issues beyond performance disparities by examining whether male- and female-led SMEs engage differently in internationalization efforts (Hughes et al., 2012).

Despite their active participation in international markets, CEE firms are underrepresented in global business research (Caputo et al., 2016; Dabic & Lamotte, 2017). Compared to firms from developed economies, the scope of internationalization for CEE firms is notably narrower. This limitation is primarily due to the constraints in resources and capabilities available to them. Research by Dabic and Lamotte (2017) confirm these findings. In addition, CEE firms have rapidly integrated into the global economy over the past few decades, benefiting significantly from internal reforms and membership in international organizations

such as the World Trade Organization and the European Union. These changes have facilitated a marked improvement in the economic freedom and trade capabilities of CEE countries, surpassing many other emerging economies. Consequentially, there is a noticeable gap in the literature regarding the role of innovation in the internationalization of CEE firms. While existing research has primarily focused on firms from developed economies, it is crucial to understand how innovation affects the international performance of businesses in the unique institutional contexts of CEE countries (Albuquerque Filho et al. 2021; Contractor, 2007). Firms from emerging markets such as the CEE countries are either young or have recently been privatized, indicating that their management capabilities and decision-making processes are still maturing (Contractor, 2007). Most firms in emerging markets, even in larger countries, tend to be relatively small and resource constrained. These businesses also require additional resources and legitimacy when operating on an international scale. Geographically, most emerging markets are distant from major markets in the Western world. However, CEE countries occupy a unique position bordering developed Western Europe, making them a particularly interesting case for study (Jarosiński, 2013). This research aims to enrich the literature on internationalization theory by providing additional support for the theory of internationalization by underscoring the importance of innovation and the influence of the firm owner's gender.

1.2 Objective and research question

The research question that is addressed in this thesis is:

What is the impact of internationalization on firm performance? Do innovation and gender of the firm owner moderate this relationship?

The objectives of this research are multifaced, first the impact of internationalization on the performance of SMEs in emerging countries in CEE is analyzed. Secondly the moderated impact of firm innovation on firm performance is measured. Thirdly, the moderated role of gender of the firm owner is analyzed on the relationship between internationalization and firm performance. By exploring these interactions, the research aims to provide insights into how innovation and gender contribute to the success of internationalization strategies, and practices to enhance their performance.

1.3 Relevance

The CEE region offers a unique context that differs from both developed and other emerging economies, influencing the internationalization patterns of firms (Ciszewska-Mlinarič et al., 2020). Therefore, the findings from CEE countries might not be entirely generalizable to other emerging markets.

Incorporating findings from diverse contexts allows for a more robust testing of these theories. Additionally, this study addresses a critical gap in the literature by examining how innovation moderates the relationship between internationalization and firm performance, particularly in emerging markets (Albuquerque Filho et al., 2021; Jarosiński, 2013). This research aims to provide insights for optimizing innovation strategies to enhance international performance, offering valuable guidance for managers in prioritizing international resources and strategies. Additionally, the emphasis on innovation aligns with EU economic policies aimed at supporting SMEs competitiveness through innovative practices (Martínez-Román et al., 2019). The insights gained from this research can advocate for integrating innovation into the core of SME internationalization strategies, suggesting that a strong innovative culture within SMEs can significantly strengthen their international market presence. Another crucial dimension that is added is the examination of the gender of firm owner as a moderating variable. This focus not only enriches the theoretical landscape by integrating gender dynamics (Hughes et al., 2012) but also deepens the understanding of how these dynamics influence strategic outcomes in international markets.

The practical relevance of this study particularly lies in the strategic needs of SMEs within the increasingly complex and competitive global economy. As the global landscape evolves rapidly, the ability of SMEs to adapt and internationalize effectively becomes crucial to their growth and long-term viability (Gupta et al., 2014; Ghai et al., 2024). This research offers critical insights that can be used by business managers and policymakers to devise stronger strategies for international growth. Considering that SMEs make up 99.8% of all businesses in the European Union, their ability to succeed on an international scale is essential for promoting economic stability and growth across the region (European Commission, 2020).

1.4 Outline

The outline of the rest of the thesis is as follows, in chapter 2 the relationship between firm performance, internationalization, firm innovation and gender of the firm owner are explained by the use of existing theories. Several hypotheses are formulated to eventually

answer the main research question. Chapter 3 is further elaborating on the methodology used and statistical choices made. Followed by the results in chapter 4 and a discussion with some conclusions in chapter 5.

Chapter 2 Theoretical framework

This chapter reviews the existing literature relevant to the core concepts of this research, focusing on the internationalization of SMEs and their performance outcomes. In the theoretical framework below innovation and gender are explored as moderating factors in the relationship between internationalization and firm performance However, before analyzing the above moderating factors, it is necessary to establish what is meant by firm performance, as well as a better understanding of internationalization of SMEs. This is followed by a review on the effect of innovation on the main relationship and finally exploring the impacts that the gender of a company's owner can have on performance and internationalization link.

2.1 Firm Performance of SMEs

SMEs play a vital role in all European economies and are a major driver of innovation, employment, value addition and economic growth (Rusu & Roman, 2017). The performance of SMEs can be measured in numerous ways, each providing different insights into the health and success of a business (Chelliah et al., 2010). In order to be successful, SMEs must effectively utilize and integrate their physical, human, and organizational assets. Therefore, it is necessary to consider a wide range of metrics to develop a holistic picture of a company's performance. Such an integrated analysis can help SMEs develop long-term competitive advantages and, consequently, superior performance (Chelliah et al., 2010).

The growth of economic activity outside the boundaries of the home economy is known as internationalization and is one of the key components of globalization (Dicken, 2003). According to McDougall & Oviatt, (2000, p. 903), internationalization is a strategy that combines *"innovative, proactive and risk-seeking behavior that crosses national borders and is intended to create value in organizations*". The process of economic liberalization, at the heart of globalization, has contributed to the creation of a single market and forced SMEs to be competitive on an international level (Mikić et al., 2016). According to Knowles et al., (2006), in recent decades internationalization has evolved into a tool for SMEs to achieve better performance and has become a crucial component behind the optimization of business opportunities. To understand the process of internationalization, the organizational learning theory is applied. The organizational learning theory suggests that the process of internationalization for SMEs is deeply rooted in the accumulation and application of

knowledge gained through experience. According to this perspective, firms operating in global markets must prioritize acquiring and understanding information, as well as experiential knowledge, to navigate the complexities of internationalization effectively (Levitt & March, 1988).

By venturing into new geographic regions, a firm can potentially increase sales and expand its customer base. Therefore, internationalization can be seen as essential to business growth and higher performance, since it opens up new markets (Lu & Beamish, 2006). A firm can also gain from acquiring skills that are unavailable domestically or from utilizing superior production resources found in other countries, thereby leveraging the host country's location advantage (Cuervo-Cazurra et al., 2018). The majority of research on international strategy tends to agree that internationalization should improve business performance because the advantages exceed the additional expenses (Pacheco, 2019). However, this relationship is not that straightforward for SMEs, due to their internal limitations and competitive capacity in global markets (Pangarkar, 2008).

Expanding internationally is not without any risks or uncertainties. To expand successfully into a new market, firms must understand the cultural characteristics of their target market to adapt their product innovations accordingly (Tu et al., 2020). One of those cultural characteristics that need to be overcome is the language barrier. Language differences can cause misunderstandings, impacting negotiations, marketing, and customer relations (Albuquerque Filho et al., 2021). Differences in norms, values and business practices can also lead to certain conflicts. Attitudes towards hierarchy, time management and negotiation styles can vary across cultures (Stal, 2010). In addition, the presence of weak formal institutions, especially in emerging markets, presents substantial threats to firms due to unclear policies and ineffective enforcement of legal rights. The inability of management to effectively mitigate these risks can result in poor firm performance. Those risks can lead to higher costs which can lead to a decrease in firm performance (Amin et al., 2024; Albuquerque Filho et al., 2021).

Despite the challenges SMEs have the potential to increase their performance through increased internationalization (Pangarkar, 2008; Hsu et al., 2013; Bagheri, 2019). The effect of internationalization on firm performance SMEs can gain competitive advantages by

leveraging their adaptability and innovation enabling them to seize opportunities in sectors ranging from technology and manufacturing to services and agriculture. This dynamic foster economic resilience and promotes sustained development (Caputo et al., 2016). According to Zhu and Sardana (2020), MNEs operating on a global scale are particularly vulnerable to uncertainties and business risks, including regulatory and political challenges. The fixed costs and organizational inefficiencies associated with their larger size can outweigh the benefits of increased market power. This makes MNEs more likely to be influenced by these risks. In contrast, smaller firms, with their greater flexibility and adaptability, possess a competitive advantage that enables them to navigate and respond more effectively to such challenges (Pacheco, 2019). Firms that successfully navigate the challenges of internationalization are exposed to diverse environments, cultures, and business practices. This exposure enables them to enhance their performance by developing and utilizing resources, core competencies, networks, and innovative business approaches across various contexts (Boermans & Roelfsema, 2015). Consequently, this research posits that internationalization contributes to improved firm performance.

Hypothesis 1: *The internationalization of SMEs positively impacts firm performance.*

2.2 Moderating effect of firm innovation

Innovation and the capabilities associated with it play a crucial role in establishing and maintaining competitive advantages. These advantages arise from value creation and the ability of the organization to adapt, both of which are vital for penetrating international markets (Albuquerque Filho et al., 2021). The definition used for innovation in this research is "*the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations*" (OECD, 2005:11). Global competition means that SMEs are always looking for new and creative ways to expand their international reach (Child et al., 2017). It is widely accepted that the creation of goods and processes is essential to the global survival of a company (De Jong, 2013). A strategy to achieve competitive advantage requires innovation because it not only allows consumers to benefit from unique product/service attributes but also from lower prices coupled with desired quality attributes due to innovative business processes, supporting competitive advantage in the domestic as

well as global markets (Bedford et al., 2021). Therefore, fostering innovation is imperative for companies seeking to enhance their competitiveness and sustain their position in international markets.

Innovation within an organization can be understood through the concept of exploitation and exploration (March, 1991; Hou et al., 2019). According to the organizational learning theory exploitation describes the process of improving and refining existing product and procedures with emphasis on productivity, efficiency and small steady improvements. These are the incremental innovations (March, 1991). Exploration at the other hand, involves activities that seek new knowledge and innovation, such as experimentation, risk-taking, and the development of radical new products. Exploration is therefore associated with high uncertainty and long payback periods (March, 1991). The combination of the two is known as organizational ambidexterity which enables firm to balance adaptability with alignment (O'Reilly & Tushman, 2013). Ambidexterity is the belief that reaching strategic goals requires the best possible allocation of resources between two seemingly distinct areas, exploration and exploitation (Severgnini et al., 2019). Understanding and managing the tension between exploration and exploitation is crucial for sustaining innovation and competitive advantage (Almahendra & Ambos, 2015). Ambidexterity allows companies to maintain a strategic equilibrium that fosters both short-term financial performance and long-term growth. Exploitation is significant for generating immediate financial returns, which in turn increases the firm's capacity to invest in explorative innovation. This investment in exploration is essential for developing new revenue streams and sustaining long-term competitive advantages (Yoshikuni et al., 2018). Therefore, firms which can effectively balance these dual innovation activities tend to perform better overall.

In the case of SMEs, deciding which products, approaches and/or business models to develop and/or use internationally can be difficult, because these companies tend to operate under severe financial and human resource constraints (Wadhwa et al., 2017). Therefore, innovation and internationalization are often seen as being potentially dangerous (Freixanet, 2014). Wadhwa et al., (2017) shared that while innovation can offer competitive edges for SMEs venturing into international markets, it also carries significant risks due to the substantial R&D investments required (Wadhwa et al., 2017). Challenges such as internal resistance to innovation adoption and skepticism in the market highlight the resource-heavy and unpredictable nature of innovation (Hultink, 2000), particularly for smaller firms with limited

resources (Li & Atuahene-Gima, 2001). However, SMEs do have certain competitive advantages. Their small scale means that they tend to be more adaptable and benefit from quick decision-making, which are both factors that are known to reduce the risks associated with innovation (Rovira Nordman & Tolstoy, 2011). Companies in emerging economies can leverage innovation to enhance their level of internationalization. Through this internationalization, they can acquire valuable resources such as new technologies and strategic assets (De Jong, 2013). These resources enable firms to compete more effectively with global rivals and navigate the institutional and economic challenges in foreign markets, ultimately leading to stronger competitive positioning, increased market share, and higher profitability. Which in turn can lead to higher performances (Luo & Tung, 2007).

Those with clearly positive views of the impact of innovation as a moderator of firm performance, hold that international businesses that exhibit innovation are more likely to react swiftly to shifts in the market and make breakthroughs in order to produce new products and services before their competitors, giving them an advantage (Damanpour & Gopalakrishnan, 2001). Essentially, by being the first to market new innovations, firms can exploit first-mover advantages, such as increased market share, higher return on investments, and overall firm success (Damoah, 2023; Price et al., 2013; Cassiman & Golovko, 2011). Similarly, Price et al. (2013) highlight that firms engaged in developing innovative products and services tend to position themselves to compete more successfully than those that do not. In addition, innovation particularly through R&D investments, not only drives technological advancements but also strengthens a firm's ability to compete by offering differentiated products and services, thereby enhancing performance in international markets Nekhili, Boubaker, & Lakhal, 2012). As a result, the following hypothesis is formulated:

> ***Hypothesis 2****: Firm innovation moderates the relationship between firm internationalization and firm performance.*

2.3 Moderating effect of gender of the firm owner

As is seen in previous section, to succeed in the global marketplace, companies must understand the characteristics of the markets they intend to enter and adapt their innovations accordingly. Consequently, navigating the complexity and ongoing volatility of international markets relies significantly on the leadership of the firm (Tu et al., 2020). Previous studies use the Upper-Echelon theory to explain a firm's internationalization strategy related to the traits of managers, CEOs and owners, such as gender (Amin et al., 2024; Ho et al., 2015; Hsu et al., 2013) According to the Upper-echelons theory managerial characteristics have an impact on business results, strategic decisions, and performance levels (Hambrick, 2007). In line with this view, gender diversity studies views gender as an important factor that can influence a firm's strategic behavior. (Amin et al., 2024).

The concept of gender plays a crucial role in understanding entrepreneurial behavior. While sex refers to biological differences, gender is socially and culturally constructed, shaping individuals' actions and societal expectations (Ahl, 2006). Gender identification refers to how individuals align with traits typically associated with males or females (Gupta et al., 2009). Since gender is "performed" rather than innate (Bruni et al., 2004), people may identify with masculine or feminine traits to varying degrees. This identification affects their attitudes towards gendered tasks. For example, if entrepreneurship is seen as masculine, those identifying more with masculine traits are likely to have stronger entrepreneurial intentions (Gupta et al., 2009).

Gendered cultural standards can cause 'gender-appropriate' behaviors to become internalized, which promotes self-stereotyping (Pergelova et al., 2018). Although these prejudices frequently operate unintentionally, they may influence how business owners view themselves as well as how they recognize and seize opportunities (Brush et al., 2009). Given the influence of social norms and upbringing, women may perceive and pursue international opportunities differently even when they have similar resources and skills as men (Pergelova et al., 2018). Gupta et al. (2013) revealed that the evaluation of opportunities is affected by gender-stereotypical information and its presentation, implying that such evaluations are deeply embedded in personal beliefs, values, and expectations (Thébaud, 2010). As a result, the decision to internationalize and the selection of entry modes are influenced by entrepreneurs' cognitive processes, which are shaped by socially constructed beliefs and

values (Pergelova et al., 2018). Negative gender stereotypes further discourage women from engaging in traditionally male-dominated activities, such as international business expansion and internationalization process (Akter et al., 2019; Pergelovva et al., 2018). This may explain why businesses led by women often experience lower firm performance, as they are more likely to own smaller businesses with limited growth and export potential, making female-run SMEs less inclined to engage in internationalization compared to those managed by men (Shaw et al., 2009).

Orser et al. (2010) investigated the relationship between SMEs characteristics and export likelihood, paying special emphasis to the ownership gender. The social approach indicates that politics, power, class structure all have a role in explaining how gender affects the export behavior. With this said, the conclusion is that SMEs' internationalization processes are not gender neutral and that, in contrast to businesses owned by men, those owned by women are typically smaller, less focused on growth and less likely to operate in industries with high export potential (Orser et al., 2010). Taken into account the distinctions between the traits of businesses owned by men and women, the following hypothesis is suggested:

> **Hypothesis 3**: *Gender of the firm owner moderates the relationship between internationalization and firm performance*

2.4 Conceptual model

In figure 1, the conceptual model can be found. It shows the different variables explained in the theoretical framework with the expected relations.

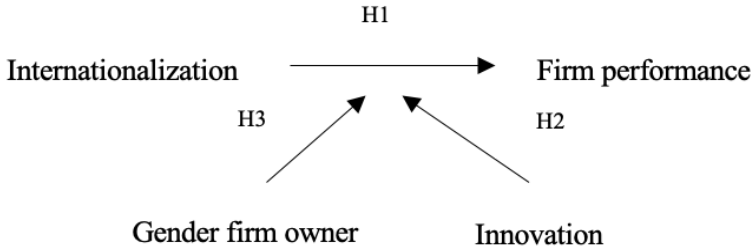

Figure 1: Conceptual Model

Chapter 3: Methodology

This chapter outlined the methodology employed in this study, detailing the methods and data used to investigate the hypotheses. Initially, the chapter explores the data collection techniques utilized, along with a description of the sample. Thereafter the dependent, independent and moderator variables were discussed as well as the statistical analysis that was used. The chapter is finished with the discussion of the research ethics.

3.1 Data approach, collection and sample

To provide clarity on how the collected data is handled, it is important to outline the philosophical approach used, which is the positivistic approach. Positivism is rooted in the belief that reality is independent and observable, and that understanding of this reality can be achieved through empirical evidence. From an epistemological point of view, positivist research regards social things an actual physical object and aims to provide meaningful and reliable data by observing and measuring observable facts. The findings allow for prediction of potential outcomes of hypothetical events. Human interests are not taken into account in positivist studies, and the researcher operates independently of the study (Saunders et al., 2019). Positivism is associated with the idea that researchers should focus on the facts (Bell et al., 2021).

In line with this positivist philosophy, this study takes a deductive and quantitative approach. A deductive approach means that out of existing theory hypothesis are formulated and tested (Proudfoot, 2023). Quantitative research is particularly effective when the goal is to determine how variables relate to one another, as it allows for the measurement and statistical analysis of these variables This makes a quantitative approach well-suited for testing hypotheses. The quantitative techniques used are particularly effective in studying large groups and making generalizations form the sample to broader population (Holton III & Burnett, 2005). Given that this study involves a significant number of firms with diverse characteristics, employing a quantitative approach, enables us to derive conclusions that are generalizable beyond the sample. This point of view is in line with the positivistic approach, which ultimate goals is to find causal relations and generalize the outcomes (Bell et al., 2021; Saunders et al., 2019). By employing statistical tools to analyse data from the World Bank Enterprise Surveys, the research aims to objectively measure how these variables interact and influence one another.

In order to test the hypotheses formulated in the theoretical framework, data of an existing database was used. The database used is the World Banks' Enterprise Surveys data (Enterprise Surveys, 2024). World Bank Enterprise Surveys (WBES) are nationally representative firm-level surveys. The questionnaires are globally equivalent and include a wide range of issues related to the business environment, firms' characteristics, and performance metrics. A variety of qualitative and quantitative data are gathered through in-person interviews as the method of data gathering. Since 2006, surveys have been carried out using a representative sample of all businesses based on size, industry, and sector, using the worldwide sampling approach (Enterprise Surveys, 2024). For this study data is selected from 2013, 2019 and 2023.

According to the WBES SMEs are being referred to as organizations that have <99 employees (World Bank Enterprise Survey, 2024). Accordingly, in this research, SMEs are also referred to as companies with fewer than 99 employees. Therefore, all the firms with more than 99 employees are being excluded and removed from the dataset. In order to conduct the analysis, SMEs out of eight CEE countries are selected (Croatia, Hungary, Romania, Bulgaria, Bosnia Hercegovina, Georgia, North Macedonia and Estonia). These countries were chosen based on the availability of comprehensive data across three distinct time points —2013, 2019, and 2023— providing a richer dataset and enhancing the robustness of the analysis by increasing the number of observations.

The temporal range enhances the understanding of how various external events and internal policies in these emerging economies have influenced SME performance, offering a more detailed perspective. The initial data consist of 7315 firm observations, before removing any missing values. Because of this large dataset any observation with a missing value in one of the measured variables was deleted. Resulting in an analysis with 7304 observations (Appendix 6.1)

3.2 Variables measurement

3.2.1 Dependent variable: firm performance

The dependent variable of this research is firm performance. A study of Bradley et al. (2012) measures firm performance by comparing this year's outcomes with those of previous year. Consistent with this operationalization, but utilizing World Bank data, this study

employs a comparable firm performance metric. The World Bank Enterprise Survey uses the percentage difference in sales between the most recent year and a prior period used to calculate the annual sales growth (perf1). Within this measurement a positive percentage indicates growth in sales which suggests improved firm performance. A negative percentage indicates a decline in sales, suggesting a decline in firm performance. As a result, a relative performance result is obtained, which is useful for the analysis. To measure this the following questions were asked: '*In fiscal year (2013-2019-2023) what were this establishment's total annual sales for all products and services?'* (d2) and '*In fiscal year (2013-2019-2023), three fiscal years ago, what were total annual sales for this establishment*?' (n3) (Enterprises Surveys Indicator Descriptions, 2023). This leads to the following formula:

$$\left(\frac{1}{t}\right) * \frac{(d2-n3)}{(d2+n3)/2} * 100$$

In this formula t stands for the number of years between current and previous period, which is three fiscal years. Therefore t = 3.

3.2.2 Independent variable: internationalization

There are numerous approaches for measuring or operationalize internationalization. To determine whether internationalization has an impact on the firm performance, this variable is operationalized. The first step toward internationalization most of the time involves the outward movement of a firm's operations (Calof & Beamish, 1995). Therefore, the percentage of sales that come from exports is used to measure internationalization as this measurement is used in earlier research (Kafouros et al., 2008; Ruzzier et al., 2007). Data of the World Bank Enterprise Survey measured this by asking '*In fiscal year (2013-2019-2023), what percentage of this establishment's sales were indirect export or direct export?*' (d3b and d3c) (Enterprises Surveys Indicator Descriptions, 2023). The respondents could answer this question with a percentage. In this research a 25% export percentage is a widely accepted cut-off point to be considered a an internationally active company when measuring internationalization (Knight & Kim, 2009). Companies that export at a rate of less than 25% are categorized as non-international. Therefore, a dummy variable was created representing internationalization which can take a value of '0' when a firm is non-international, so in

which the export percentage lies below the 25% cut off point. A value of '1' indicated that a firm is internationalized, and thus has an export percentage of 25% or above.

3.2.3 Moderator: Firm innovation

To measure this variable also data of the World Bank Enterprise Survey is used. This research adopts a similar operationalization to that of previous research for measuring innovation (Atiase & Dzansi, 2020; Barasa et al., 2017) by using product/service innovation and process innovation. The survey of the World Bank (Enterprises Surveys Indicator Descriptions, 2023) asked the question '*During the last three years, has this establishment introduced new or significantly improved products or services?*' (h1) and '*During the last three years, has this establishment introduced any new or significantly improved process?*' (h5). These questions could be answered either 'Yes' or 'No'. As operationalized in research of Ayyagari et al.(2011), a dummy variable was created in which 'Yes' has a value of 1 and 'No' a value of '0' which is also used. Distinction between the type of innovation is not relevant to this study.

3.2.4 Moderator: Gender firm owner

As second moderator this research delves deeper into the gender of the SMEs firm owner. The World Bank Enterprise Survey offers the possibility to select on gender by the question '*Amongst the owners of the firm, are there any females*?'(b4). A dummy variable is created with '1' representing male owners and '0' representing female owners, this operationalization is adopted from Bastos & Pavlik (2024). Important to underscore is that female ownership could represent only a minority share, as further elaborated in chapter 5. However, Bastos and Pavlik (2024) state that this is mostly a concern particularly relevant for larger firms, which are excluded from this research.

3.2.5 Control variables

In this research several control variables were taken into account. The first one is firm age. Firm age is calculated using an indicator from the World Bank Enterprise Survey (b5) (Enterprises Surveys Indicator Descriptions, 2023) *'In what year did this establishment begin operations in this country?'* This results in a year. This year is subtracted from the year in which the survey was conducted (2013, 2019 or 2023). Younger companies often face challenges associated with being new to the market. This may impact their performance

negatively (Coad et al., 2016; Hannan & Freeman, 1984). The second control variable is the years of top manager's experience working in the firm's industry. Kolarov et al. (2017) stated that more experienced managers are often more likely to internationalize their businesses beyond domestic borders. This variable is measured by the question '*How many years of experience working in this sector does the Top Manager have?'*(b7) (Enterprises Surveys Indicator Descriptions, 2023). The last control variable is firm size. While the primary focus is on SMEs, it is crucial to differentiate between various firm sizes as a control variable, given their distinct impacts on innovation activities. Larger firms often have a competitive edge in innovation due to several factors. These include greater cash flow, which supports financing innovation activities, economies of scale that lower the costs and increase the efficiency of these activities, and superior access to human capital, which is critical for driving innovation (Frenkel et al., 2001). The WBES distinguishes between small firms (up to 19 employees) and medium firms (up to 99 employees) Therefore, this is represented as a dummy variable where 0 stand for small firms and 1 stand for medium firms. (World Bank Enterprise Survey, 2024). Within the analysis a dummy variable is created for firm size
The industry a firm is operating in is also taken into account as control variable. Given that some industries are more innovative than others (Barasa et al., 2017). This thesis accounts for the manufacturing, retail and other services industries. Dummy variables are created using other services as the reference category. The last control variable is the year the data is retrieved. The year in which the data was collected can be an indication of time effects that may influence the dependent variable. Economic conditions, technological advancements, policy changes, and other time-related factors can affect the results. in 2013, CEE countries had just joined the European Union, and Europe was still recovering from the Euro crisis. Therefore, it is expected that performance in the years 2019 and 2023 is generally better compared to 2013 (Rapacki, 2019). In the model a dummy is created in which 2013 is used as reference category.

3.3 Research ethics

This study is committed to adhering to the ethical guidelines set forth by the American Psychological Association (APA). The dataset employed in this research is sourced from a well-established database, namely the world enterprise surveys (World Bank Enterprise Survey, 2024). Which is known for its credibility. The data of the World Bank is often used in academic research (Bastos & Pavlik, 2024; Borisova & Brown, 2013; Bradley

et al., 2012; Filippetti et al., 2013; Hagemejer & Kolasa, 2011; Kotabe et al., 2002; Vithessonthi, 2016). When gathering the data, the researcher did not have any involvement in the data collection process as the data was derived from a secondary source. In the process of data analysis, rigorous measures were taken to ensure the integrity of the data, preventing any form of falsification or manipulation. Relevant variables from the WBES were retrieved creating its own dataset. This dataset is available to anyone who might wish to verify the analysis.

3.4 Data analysis

The relationship between internationalization and performance in analysed using ordinary least squares (OLS) regression. The dataset utilized in this study consists of cross-sectional data collected over three points in time (2013 – 2019 – 2023), detailing various performance metrics and characteristics of firms. The analysis was focused on the following dependent variable, firm performance measured as sales growth, and the independent variable internationalization, measured as internationalized or not internationalized, and two moderators' innovation, and gender of the firm owner. Control variables such as firm age, size, experience of the manager, industry and the year in which data was retrieved was included in the models. Before running the regression models, it is essential to test the underlying assumptions of OLS regression to ensure the validity and reliability of the results. The assumptions checked are normality, multicollinearity and homoscedasticity (Hair et al., 2019).

The first model includes only the control variables to account for their impact on firm performance. In the second model internationalization is added to assess the impact on firm performance. In the third model innovation and gender of the firm owner are added and in the last model, the interaction terms are added.

Chapter 4: Results

In this chapter, the findings from the regression analysis are presented. The chapter begins with an examination of the descriptive statistics to provide an overview of the data and its key characteristics. This is followed by a series of diagnostic tests to verify the assumptions underlying the regression model. Subsequently, the results of the Ordinary Least Squares (OLS) regression are detailed. The chapter concludes with a summary of the main results, highlighting the significant factors influencing firm performance.

4.1 Descriptive statistics

Before discussing the regression results, it is important to understand the basic statistics of the variables involved. The initial dataset included 7315 observations. The initial step was to clean the data and check for any missing values. Because there were only 11 missing values it was decided to delete all the observations with any missing values in it (Appendix 6.1). This step ensures that the subsequent analysis is based on a complete dataset, free from any gaps. The analysis was conducted with 7304 observations. The dependent variable (firm performance) was subjected to winsorizing to limit the influence of extreme outliers. winsorizing involves replacing extreme values with a specified percentile value to mitigate the impact of potentially spurious outliers (Pusparum et al., 2017). Values were winsorized at the 2.5^{th} and 97.5^{th} percentiles. This approach ensures that the data is robust against extreme values while retaining meaningful variation (Pusparum et al., 2017).

The skewness value between –1 and +1 is excellent, while values between –2 and +2 are acceptable (Field, 2013). As can be seen are all the skeweness values between the acceptable range. As for the kurtosis a range between –3 and +3 is acceptable (Field, 2013) For the variable performance, internationalization and firm age the value is > 3. A kurtosis value greater than 3 indicates a distribution with heavier tails than a normal distribution, known as leptokurtic. This suggests a higher probability of outliers or extreme values (Hair, 2019). For firm age a logarithmic transformation was made, because the kurtosis was even higher than the current level of 3.252 (Appendix, 6.2). Robust standard errors help mitigate the impact of non-normality, including high kurtosis, by providing more reliable estimates of standard errors and, consequently, more accurate hypothesis testing (Hair, 2019).

Variables	N	Mean	Std. Dev.	Min	Median	Max	Skew.	Kurt.
Performance	7304	6.136	13.824	-25.514	5.010	43.678	.372	3.823
Internationalization	7304	.18	.384	0	0	1	1.664	3.77
Gender firm owner	7304	.64	.48	0	1	1	-.583	1.34
Innovation	7304	.275	.447	0	0	1	1.006	2.012
Industry Manufacturing	7304	.216	.412	0	0	1	1.378	2.899
Industry Retail	7304	.325	.469	0	0	1	.746	1.556
Industry Other Services	7304	.458	.498	0	0	1	.167	1.028
Firm size	7304	.428	.495	0	0	1	.292	1.085
Experience manager	7304	20.967	10.106	0	20	64	.475	2.99
Firm age	7304	2.764	.58	.693	2.890	4.997	-.533	3.252

Table 1: Descriptive statistics

4.2 Assumptions testing

The first assumption is the test for normality. A histogram of the standardized residuals was plotted to assess their distribution (Appendix 6.3). The graph shows a normal distribution. The second assumption is the test for homoscedasticity. The Breusch-Pagan/Cook-Weisberg test was performed to verify the assumption of homoscedasticity. The test indicated a significant result ($p < .05$) (Appendix 6.4). This means that there is heteroscedasticity present and therefore this assumption is violated. To deal with this, robust standard errors need to be created. The third assumption is the test for multicollinearity. The Variance Inflation Factor (VIF) was calculated to check for multicollinearity among the independent variables. The VIF values were all below 5 indicating that multicollinearity is not a concern in this dataset (Appendix 6.5) (Hair et al., 2019). Regarding the independence of the observations, it can be concluded that there are so many years between the different observations and each year contains about 2000 unique observations. Therefore, the interdependence of the variables would not be a problem.

All the variables that were utilized to verify this finding are compiled into a correlation matrix to see if and where small correlations might exist. Every variable is included in this. The result of this can be seen in Table 2. A limit of > 0.8 is accepted in research before suggesting serious collinearity (Field, 2013; Hair, 2019). Since no values in the model employed for this thesis reach the >0.8 level, it is confirmed that the independent variables do not highly correlate.

Variables	(1) Performance	(2) Internationalization	(3) Gender	(4) Innovation	(5) Manufacturing	(6) Retail	(7) Other Services	(8) Firm Size	(9) Experience manager	(10) Firm Age
(1)	1.000									
(2)	0.048***	1.000								
(3)	0.033***	0.011	1.000							
(4)	-0.007	0.046***	0.002	1.000						
(5)	-0.004	0.189***	0.035***	0.067***	1.000					
(6)	-0.100***	-0.167***	-0.095***	0.027**	-0.365***	1.000				
(7)	0.097***	0.001	0.060***	-0.081***	-0.483***	-0.639***	1.000			
(8)	0.034***	0.160***	-0.009	-0.016	0.083***	-0.074***	0.001	1.000		
(9)	-0.078***	0.030**	-0.052***	-0.013	0.073***	-0.027**	-0.035***	0.096***	1.000	
(10)	-0.145***	-0.006	-0.071***	-0.019*	0.044***	0.028**	-0.063***	0.152***	0.411***	1.000

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 2: Pairwise correlations matrix

4.3 Regression analysis

After all the assumptions have been tested the OLS regression was conducted to determine the impact of various variables on firm performance. The results can be found in table 3.

Variable	Model 1	Model 2	Model 3	Model 4
Internationalization		1.234***	1.182***	0.568
		(0.439)	(0.437)	(0.751)
Gender			0.332	0.341
			(0.323)	(0.352)
InternationalizationX Gender				0.023
				(0.867)
Innovation			1.118***	0.741*
			(0.373)	(0.411)
InternationalizaitonX Innovation				1.952**
				(0.928)
Size	0.865***	0.726**	0.724**	0.727**
	(0.315)	(0.319)	(0.319)	(0.319)
Experience manager	-0.060***	-0.061***	-0.061***	-0.061***
	(0.018)	(0.018)	(0.018)	(0.018)
Manufacturing	0.178	0.024	-0.025	-0.031
	(0.430)	(0.437)	(0.436)	(0.436)
Retail	-1.367***	-1.258***	-1.222***	-1.210***
	(0.362)	(0.366)	(0.367)	(0.368)
Firm age	-3.496***	-3.463***	-3.444***	-3.432***
	(0.337)	(0.337)	(0.337)	(0.338)
2019	0.372	0.342	0.392	0.368
	(0.447)	(0.447)	(0.447)	(0.447)
2023	5.767***	5.765***	6.013***	6.026***
	(0.450)	(0.450)	(0.459)	(0.459)
Constant	14.462***	14.238***	13.547***	13.619***
	(0.938)	(0.941)	(0.989)	(0.991)
Observations	7,304	7,304	7,304	7,304
Adjusted R-squared	0.069	0.070	0.071	0.071

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 3: Output regression

Model 1

The first model shows the baseline model with only the control variables included firm size, years of experience of the manager, industry firm age and the year the data was retrieved. Except for the manufacturing industry and 2019, all the variables are significant.
The significant coefficient for firm size means that as the firm gets bigger, it increases performance. The negative significant coefficient for experience in years of the manager, suggests that as the years of experience of the firm's top managers increase, firm performance tends to decrease. This effect was not expected. Looking at the industry, the retail industry has a negative significant coefficient of -1.367. Meaning that firms operating in the retail industry reduce the performance compared to the 'other services' industry. The negative coefficient for firm age indicates that older firms tend to experience lower firm performance compared to younger firms. These findings are somewhat contradicting of what previous research highlighted (Coad et al., 2016: Kolarov et al., 2017; Hannan & Freeman, 1984). These results are further discussed in the next chapter. The year 2023 showed a positive significant correlation meaning that compared to 2013, the firm performance relatively higher. The control variables show consistent results in the other three models.

Model 2

In the second model the effect of internationalization is taken into account as dummy variable. With a significant positive coefficient of 1.234 this model suggests that being part of the firms that are internationalized increased the performance about 1.234 units, compared to firms that are not internationalized.

Model 3

In this model the individual effects of innovation and gender of the firm owner are added, without considering the interaction between internationalization and innovation. Model 3 shows that both internationalization and innovation individually contribute positively and significantly to firm performance. The results suggest that engaging in either internationalization or innovation is beneficial for firms, leading to higher performance outcomes. Regarding gender of the firm owner here is no statistically significant evidence that the gender of the firm owner has an impact on firm performance in this model.

Model 4

In this fourth model the interaction terms are added to explore the combined effects of internationalization with innovation and gender of the firm owner. The combined effect of internationalization with innovation is positive and significant with a value of 1.952. Meaning that firms who are internationalized and have a certain type of innovation perform better compared to firms that do not. Looking at the interaction term of gender of the owner this relation is not statistically significant, suggesting that the combined effect of internationalization and gender of the owner on firm performance is not different from their individual effects. To understand the total effect on performance for firms that are both internationalized and innovative the coefficients need to be summed up. firms that engage in both internationalization and innovation, the performance is expected higher compared to firms that neither internationalize nor innovate.

4.4 Hypotheses

The first hypothesis shows a positive and significant effect between internationalization and firm performance. Firms that are grouped as internationalized show a higher performance than firms that operate domestically. The second hypothesis is also supported showing that firms grouped as internationalized and being more innovative show a higher performance. The third hypothesis however is rejected. A moderated effect of gender of the firm owner was expected but was not found in this research.

4.5 The goodness of fit and robustness

The goodness of fit of the regression model is evaluated using the Adjusted R-squared value, which is a key indicator of how well the independent variables explain the variation in the dependent variable. In this study, the Adjusted R-squared values range from 0.069 to 0.071 across different model specifications, indicating that approximately 6.9% to 7.1% of the variability in the firm performance is explained by the included predictors. The adjusted R square is higher when individual effects and interaction terms are included (see model 3 and 4). Compared to Model 3, the adjusted R-squared has not increased in model 4. This means that adding the interaction term, as opposed to adding individual effects, does not explain more variance.

When aiming for robust outcomes in statistical analyses, using continuous variables instead of categorical variables can be advantageous in several ways. Continuous variables, by their

nature, capture a wider range of information and allow for more nuanced modeling (Harrell, 2015) in appendix 6.7 the regression results of the unadjusted variables show consistent results, suggesting that the results are robust with respect to the transformations applied.

Chapter 5: Discussion & Conclusion

In this chapter some findings are discussed following a short conclusion of the results. In addition, implications and practical as well as academic relevance is explained. The chapter ends with some limitations and future research directions.

5.1 Discussion

Although the results of various studies on the internationalization – performance relationship are contradictory. Showing negative relations between internationalization and performance (Benito-Osorio et al., 2016; Tu et al., 2020) and at the other hand positive relations (Hsu et al., 2014; Pacheco, 2019; Bagheri et al., 2019; Amin et al., 2014), this study is more consistent with the last. Showing a positive and significant relationship as well. This can be explained by the fact that CEE has historically served as a nexus between Asia and Europe and the region is geographically significant, bordering several of the globe's rapidly evolving economies, including Russia. Moreover, businesses in the CEE countries were sold to Western companies during the rapid privatization processes of the 1990s, following the collapse of communism (Stark, 1991). Which could continue to influence the economic dynamics in this region. SMEs operating internationally in CEE countries have emerged as vital contributors to the region's economic growth and integration into the global market (Dallago, 2003). These businesses often benefit from the region's strategic location, skilled work force, and improving infrastructure, allowing them to access diverse markets and supply chains. Additionally, SMEs in this area leverage competitive advantages such as lower production costs and a growing digital economy. Despite challenges like varying regulatory environments and political uncertainties, their adaptability and innovation enable them to seize opportunities in sectors ranging from technology and manufacturing to services and agriculture. This dynamic foster economic resilience and promotes sustained development within the region (Caputo et al., 2016).

Within this research some unexpected outcomes were revealed. The third hypothesis suggested that the gender of the firm owner moderates the relationship between internationalization and firm performance. The analysis did not support this hypothesis, revealing no significant interaction effect. Faccio et al. (2016), noted that the influence of gender on firm performance might be more nuanced and context specific. In this research it was expected to find similar results as conducted in earlier research done by Tu et al. (2020), Ackah et al., (2020), Amin et al., (2024) and Garg and Shastri (2022). They all found a significant impact of gender and were conducted in different countries and contexts. Tu et al. (2020) did research among Turkish SMEs. Garg and Shastri (2022) conduced their research within companies in India. Ackah et al, (2020) in Ghana and Amin et al., (2024) in Pakistan. However, the results of this research are more consistent with research done by Ramón-

Llorens et al., (2017) and Westhead and Howorth (2007). Both studies showed that gender did not make a significant difference in the process of internationalization. The study of Ramón-Llorens et al., (2017) was conducted in Spain. Westhead and Howorth (2007) conducted their research in the United Kingdom. Although CEE countries are often considered to lag behind their Western counterparts (Jarosiński, 2013), this disparity does not extend to the influence of gender on the process of internationalization.

The control variables yielded surprising and contradictory results. The negative coefficient for managerial experience was unexpected, as previous study (Kolarov et al., 2017) have highlighted the positive impact of experience of the manger on firm performance. A possible explanation could be that more experienced managers might be more risk-averse (Harrison et al., 2010; Menkhoff et al., 2006; Nakano & Nguyen, 2011), preferring stable domestic markets over the uncertainties associated with international expansion. Similarly, the negative relationship between firm age and performance contradicts the assumption that older firms benefit from accumulated knowledge and experience (Coad et al., 2016; Hannan & Freeman, 1984). This could be attributed to structural inertia, as older firms might struggle to adapt to rapidly changing international market conditions (Al-Hadi et al., 2019). A study by Pervan et al. (2017) implied that, in the Croatian food industry, company performance decline with age. The research stated that businesses become more bureaucratic and less flexible as they get older, making it harder for them to make quick adjustments. This is in line with the significant negative coefficient of firm age, found in this study. Regarding the results of the industry a firm is operating in it was found that the manufacturing sector had no significant effect on firm performance compared to the reference category other services. Retail at the other hand had a significant negative impact. This can be explained by the fact that eexporting is comparatively more common in the manufacturing, technology and knowledge-based sectors (Therrien and Dolreux, 2007). Organizations that manufacture or use technology heavily export, and these and other knowledge-based businesses depend on overseas markets.

5.2 Conclusions

The aim of the study was to gain a better understanding of the relationship between internationalization and performance. Data of 7304 SMEs across eight countries in three distinct point in times is used and analyze through a OLS regression. In addition, the

moderating effects of innovation and gender of the firm owner were taken into account. In the context of CEE it can be concluded that SMEs that trade internationally, have better firm performance than companies that are not internationalized and are only focused on the domestic market. Moreover, it was analyzed what and how innovation practices and gender of the firm owner might influence or enhance this main relationship. From this research it can be concluded that when a SME does participate in innovative practices and can be categorized as an internationalized company, the firm performance is significantly higher than firms that do not participate in innovative practices. With regard to gender of the owner there was no significant result found. Implicated that the impact of internationalization on firm performance does not differ based on the gender of the owner. In other words, the effects of internationalization and the owner's gender on firm performance operate independently and do not combine to create a unique influence.

5.3 Implications

This research has significant implications for both academic and managerial audiences. At the academic level, it contributes to the existing literature on internationalization and firm performance by focusing on SMEs in CEE countries. Research of Bagheri et al. (2021) and Pacheco (2019) showed that it is still unclear whether the internationalization, performance relationship holds true for SMEs as well as MNEs. This study found a significant result and therefore contributing to existing knowledge. Policymakers can also draw valuable insights from this research. Supporting SMEs in their internationalization efforts through targeted policies and programs can enhance their global competitiveness.

Our finding that the interaction between the owner's gender and internationalization is not statistically significant has important implications for public policy. Specifically, it suggests that gender-neutral economic policies can be effective in promoting firm performance through internationalization. Policies aimed at encouraging firms to enter international markets do not need to be tailored differently based on the gender of the owner. This reinforces the idea that exposure to international markets enhances overall firm performance, regardless of the owner's gender. Therefore, policymakers can focus on broad strategies to support internationalization without needing to address gender-specific barriers. Regarding innovation policies should encourage not only international market entry but also innovation

activities within firms. By promoting both internationalization and innovation, policymakers can help enhance firm performance, driving productivity and competitiveness in the global market.

5.4 Limitations and future research

Despite some valuable insights. This study has several limitations that should be acknowledged. First, the exclusion of certain CEE countries limits the generalizability of the findings across the entire region. Although eight countries were included in the analysis, the exclusion of others may affect the broader applicability of the results. Additionally, this research focuses on the CEE region as a whole, rather than on individual countries, despite potential differences in regulations, import/export taxes, and other factors that could influence the outcomes. Future research could benefit from examining these country-specific variations to provide a more nuanced understanding of the diverse economic landscapes within the CEE region.

Another limitation of this study is the potential challenge in interpreting firm performance. It is possible that a company could achieve higher revenue despite a decrease in sales volume. Since performance in this research is measured by the increase or decrease in the percentage of sales, this metric may not fully capture the complexities of the company's financial outcomes. Future research should address this limitation by considering multiple performance metrics to provide a more holistic view of firm performance.

In addition, the measurement of gender of the firm owner could represent only a minority share of female owner, which might have implications for the results. Examining the gender dynamics in greater detail could offer valuable insights into the specific challenges and opportunities. Future research might look at what the impact of gender of the firm owner is when looking at the majority in firm owners' gender of women or men. Moreover, the unexpected finding related to gender underscore the need for more nuanced research especially in the context of the CEE countries to provide a more comprehensive understanding.

Future research investigating the role of innovation in different contexts and industries could provide a deeper understanding of its impact on internationalization and performance.

Perhaps the distinction in type of innovation as suggested by Wadhwa et al. (2017) can be taken into account.

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Chapter 6: Appendix

6.1. Missing Values

Variable	N	Mean	SD	Min	p50	Max	Skewness	Kurtosis
Perf	7315	6.035835	15.709	-66.66667	5.017921	66.66176	.1086153	6.265611
Internat	7315	13.75817	28.86752	0	0	100	2.073371	5.855821
Gen	7315	.6396446	.4801363	0	1	1	-.5817269	1.338406
Inn	7313	.2752632	.4466774	0	0	1	1.006329	2.012698
Industry	7315	2.242105	.7845786	1	2	3	-.4537932	1.759169
Size	7315	.4272044	.4947062	0	0	1	.2943185	1.086623
Exper	7315	20.92987	10.15209	-9	20	64	.4490311	3.025063
agegood	7315	18.47546	10.47488	2	18	148	2.530732	20.75449

Initially there were 7315 observations. The first notable observation was the negative value for manager experience in years. In the World Bank Enterprise Survey data, missing values are coded as -9 (Enterprises Surveys Indicator Descriptions, 2023). Since a negative number of years of experience is not feasible, any value less than 0 is considered invalid. Therefore, it was decided to remove all values less than 0 from the dataset for the 'experience in years' variable. This led to the removal of 9 observations.

```
. drop if Exper <0
(9 observations deleted)
```

The next step was to check for any missing values. With the command ‘misstable’ two missing values for the innovation variable were identified. These two observations were also removed. Consequently, a total of 11 observations were excluded, resulting in a final analysis with 7,304 observations

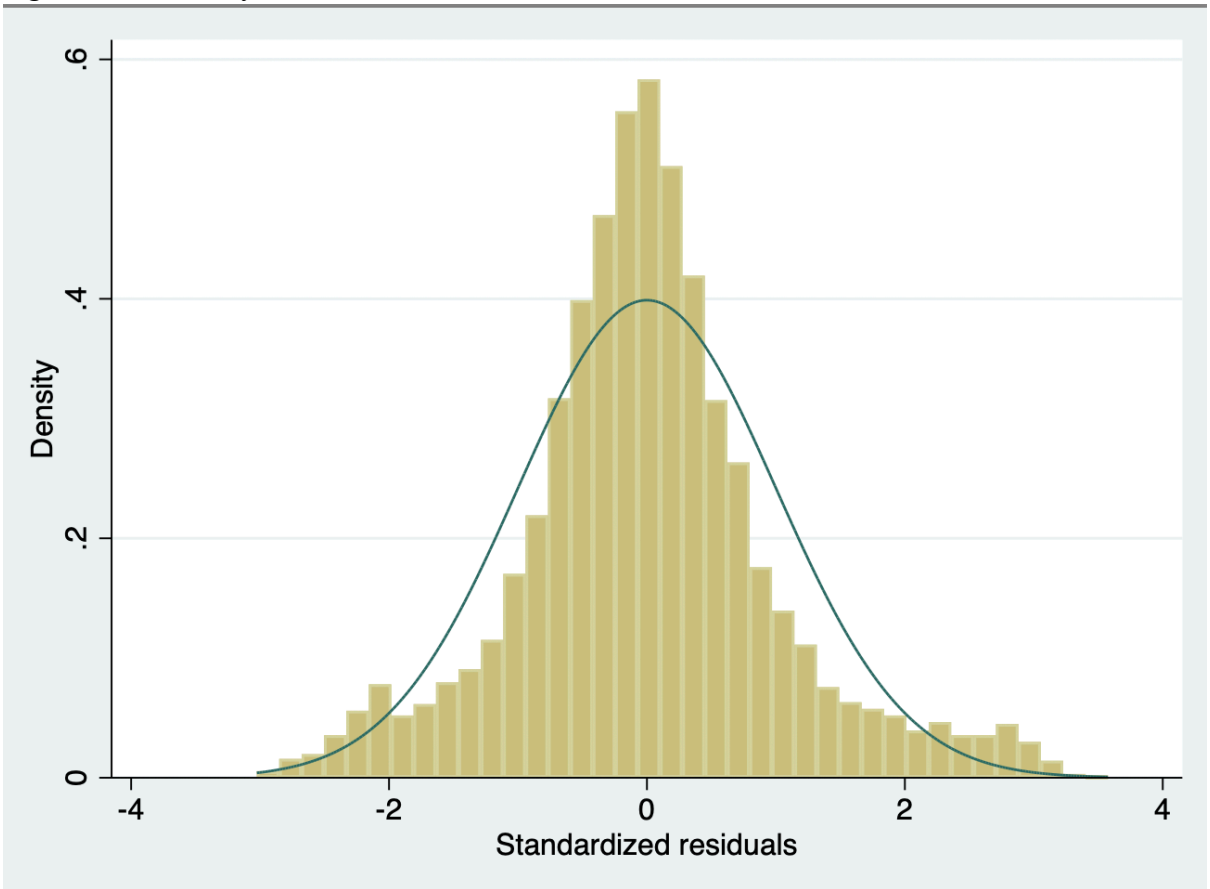
				Obs<.		
Variable	Obs=.	Obs>.	Obs<.	Unique values	Min	Max
Inn	2		7,313	2	0	1

6.2 Descriptive statistics including logarithmic transformation firm age

Variable	N	Mean	SD	Min	p50	Max	Skewness	Kurtosis
Perf_w	7304	6.135973	13.82396	-25.5144	5.010287	43.67816	.371718	3.823165
internat01	7304	.1801752	.3843597	0	0	1	1.664309	3.769925
Gen	7304	.6399233	.4800552	0	1	1	-.5829867	1.339874
Inn	7304	.2753286	.4467103	0	0	1	1.005962	2.01196
Manu	7304	.2163198	.411763	0	0	1	1.377975	2.898816
Retail	7304	.3253012	.4685194	0	0	1	.7457995	1.556217
Other	7304	.458379	.4982988	0	0	1	.1670639	1.02791
Size	7304	.4277108	.4947806	0	0	1	.2922269	1.085397
Exper	7304	20.96742	10.10592	0	20	64	.4752018	2.990383
lnage	7304	2.763616	.5800316	.6931472	2.890372	4.997212	-.5334687	3.251761

6.3 Normality

Figure 1: Normality

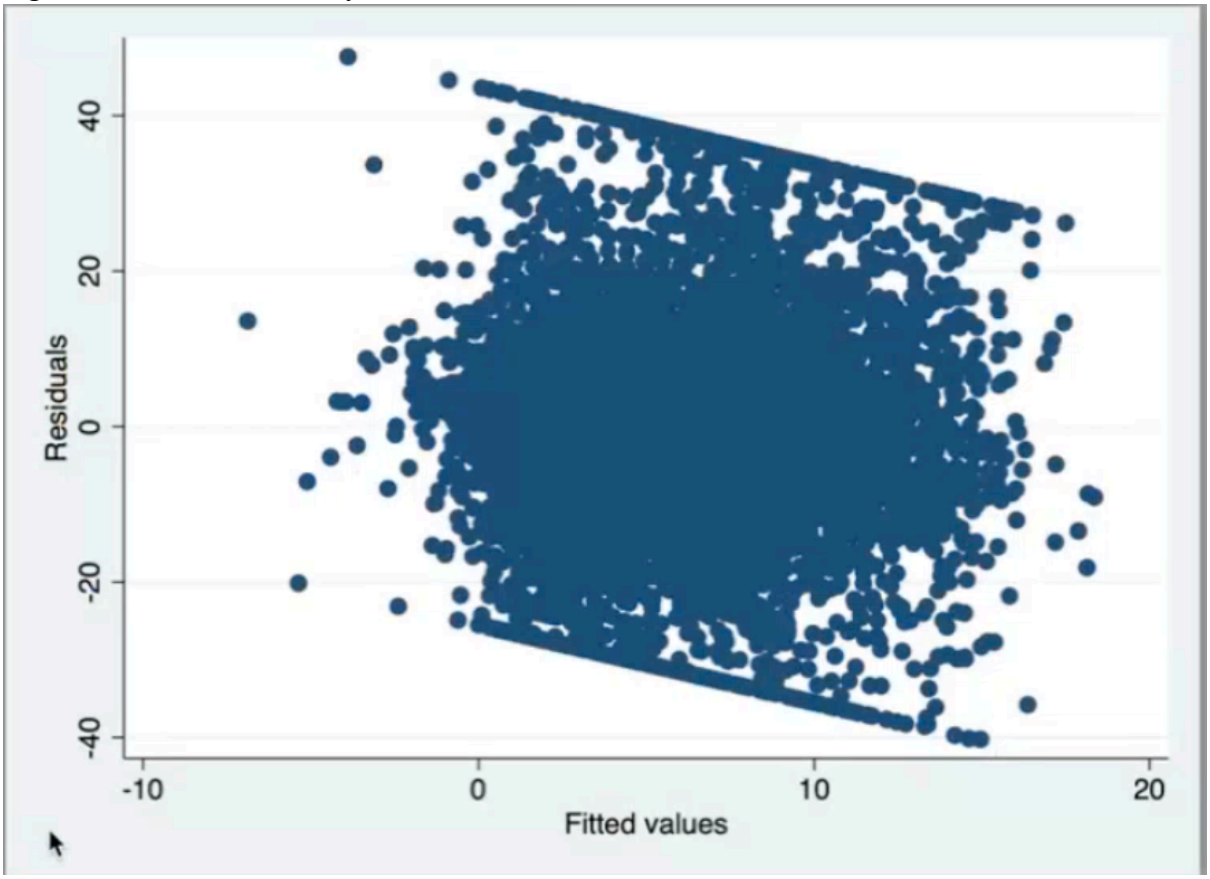


6.4 Homoscedasticity

Table 1: Breusch-Pagan/Cook-Weisberg test

Breusch,ÄìPagan/Cook,ÄìWeisberg test for heteroskedasticity
Assumption: Normal error terms
Variable: Fitted values of Percentagechangeinsales_w
H0: Constant variance
chi2(1) = 491.93
Prob > chi2 = 0.0000

Figure 2: Heteroscedasticity



6.5 Multicollinearity

VIF

Variance inflation factor

	VIF	1/VIF
internat01	3.426	.292
Gen	1.236	.809
internat01XGen	3.09	.324
Inn	1.297	.771
internat01XInn	1.729	.578
Size	1.075	.93
Exper	1.22	.82
Manu	1.245	.803
Retail	1.296	.771
lnage	1.236	.809
2019.Year data	1.609	.622
2023.Year data	1.834	.545
Mean VIF	1.691	.

6.6 Correlation matrix

Variables	(1) Perf_w	(2) internat01	(3) Gen	(4) Inn	(5) Manu	(6) Retail	(7) Other	(8) Size	(9) Exper	(10) lnage
(1)	1.000									
(2)	0.048***	1.000								
(3)	0.033***	0.011	1.000							
(4)	-0.007	0.046***	0.002	1.000						
(5)	-0.004	0.189***	0.035***	0.067***	1.000					
(6)	-0.100***	-0.167***	-0.095***	0.027**	-0.365***	1.000				
(7)	0.097***	0.001	0.060***	-0.081***	-0.483***	-0.639***	1.000			
(8)	0.034***	0.160***	-0.009	-0.016	0.083***	-0.074***	0.001	1.000		
(9)	-0.078***	0.030**	-0.052***	-0.013	0.073***	-0.027**	-0.035***	0.096***	1.000	
(10) lnage	-0.145***	-0.006	-0.071***	-0.019*	0.044***	0.028**	-0.063***	0.152***	0.411***	1.000

**** p<0.01, ** p<0.05, * p<0.1*

6.7 OLS regression output

VARIABLES	(1) Perf_w	(2) Perf_w	(3) Perf_w	(4) Perf_w
internat01		1.234***	1.182***	0.568
		(0.439)	(0.437)	(0.751)
Gen			0.332	0.341
			(0.323)	(0.352)
internat01XGen				0.023
				(0.867)
Inn			1.118***	0.741*
			(0.373)	(0.411)
internat01XInn				1.952**
				(0.928)
Size	0.865***	0.726**	0.724**	0.727**
	(0.315)	(0.319)	(0.319)	(0.319)
Exper	-0.060***	-0.061***	-0.061***	-0.061***
	(0.018)	(0.018)	(0.018)	(0.018)
Manu	0.178	0.024	-0.025	-0.031
	(0.430)	(0.437)	(0.436)	(0.436)
Retail	-1.367***	-1.258***	-1.222***	-1.210***
	(0.362)	(0.366)	(0.367)	(0.368)
lnage	-3.496***	-3.463***	-3.444***	-3.432***
	(0.337)	(0.337)	(0.337)	(0.338)
2019.Year_data	0.372	0.342	0.392	0.368
	(0.447)	(0.447)	(0.447)	(0.447)
2023.Year_data	5.767***	5.765***	6.013***	6.026***
	(0.450)	(0.450)	(0.459)	(0.459)
Constant	14.462***	14.238***	13.547***	13.619***
	(0.938)	(0.941)	(0.989)	(0.991)
Observations	7,304	7,304	7,304	7,304
Adjusted R-squared	0.069	0.070	0.071	0.071

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

6.8 Robustness check

In my primary regression model, I utilized a dummy variable for internationalization, where firms with less than 25% export are coded as 0 (non-internationalized) and those with 25% or more export are coded as 1 (internationalized). Additionally, the performance variable was winsorized. To ensure the robustness of the results, I also conducted the regression using the original variables. The findings indicate that the results between the two models are consistent, suggesting that the conclusions drawn are robust with respect to the transformations applied. In table 1, the output of the regression with the continues variable of internationalization and the winsorized performance variable can be seen. Table 2 shows the output of with internationalization as dummy variable and original performance variable.

Table 1:

VARIABLES	(1) Perf_w	(2) Perf_w	(3) Perf_w	(4) Perf_w
Internat		0.014**	0.013**	0.006
		(0.006)	(0.006)	(0.010)
Gen			0.327	0.353
			(0.323)	(0.354)
InternatXGen				-0.002
				(0.012)
Inn			1.120***	0.711*
			(0.374)	(0.415)
InternatXInn				0.027**
				(0.013)
Size	0.865***	0.743**	0.742**	0.737**
	(0.315)	(0.320)	(0.320)	(0.320)
Exper	-0.060***	-0.061***	-0.061***	-0.061***
	(0.018)	(0.018)	(0.018)	(0.018)
Manu	0.178	0.046	-0.000	-0.017
	(0.430)	(0.437)	(0.437)	(0.437)
Retail	-1.367***	-1.271***	-1.237***	-1.229***
	(0.362)	(0.366)	(0.367)	(0.368)
lnage	-3.496***	-3.461***	-3.442***	-3.429***
	(0.337)	(0.337)	(0.337)	(0.337)
2019.Year_data	0.372	0.350	0.401	0.370
	(0.447)	(0.447)	(0.447)	(0.447)
2023.Year_data	5.767***	5.768***	6.017***	6.025***
	(0.450)	(0.450)	(0.459)	(0.459)
Constant	14.462***	14.252***	13.568***	13.642***
	(0.938)	(0.941)	(0.989)	(0.991)

Observations	7,304	7,304	7,304	7,304
Adjusted R-squared	0.069	0.069	0.070	0.071

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 2:

VARIABLES	(1) Perf	(2) Perf	(3) Perf	(4) Perf
internat01		1.205**	1.144**	0.592
		(0.500)	(0.498)	(0.855)
Gen			0.389	0.437
			(0.368)	(0.401)
internat01XGen				-0.185
				(0.999)
Inn			1.311***	0.886*
			(0.440)	(0.483)
internat01XInn				2.190**
				(1.092)
Size	0.880**	0.745**	0.742**	0.747**
	(0.358)	(0.361)	(0.361)	(0.361)
Exper	-0.065***	-0.066***	-0.066***	-0.067***
	(0.021)	(0.021)	(0.021)	(0.021)
Manu	0.102	-0.050	-0.106	-0.111
	(0.487)	(0.495)	(0.494)	(0.494)
Retail	-1.377***	-1.271***	-1.229***	-1.211***
	(0.415)	(0.419)	(0.420)	(0.421)
lnage	-3.700***	-3.668***	-3.645***	-3.632***
	(0.394)	(0.394)	(0.394)	(0.394)
2019.Year_data	0.693	0.663	0.722	0.695
	(0.527)	(0.526)	(0.526)	(0.527)
2023.Year_data	6.363***	6.361***	6.652***	6.668***
	(0.526)	(0.526)	(0.538)	(0.538)
Constant	14.674***	14.456***	13.646***	13.701***
	(1.086)	(1.088)	(1.139)	(1.142)
Observations	7,304	7,304	7,304	7,304
Adjusted R-squared	0.061	0.061	0.062	0.063