Increasing Competitiveness through Marketing Innovation:
An Examination of Resource-Based View and Institutional Theory-Related Factors in International Contexts

Mehmet Civelek, Lukáš Durda, Roman Hlawiczka, Ludovit Hajduk, Roman Hruška

Abstract

Firms apply marketing innovation (MI) activities to draw customers' attention and to gain a competitive advantage against their rivals in different markets. However, enterprises' differing resources and capabilities, along with varying institutional environments across markets, might cause different MI outcomes. In this regard, this paper identifies country-level differences in the impact of innovation orientation (INO), family financial capital (FAFIC), political (POLE), economic (ECE), and legal environments (LEGE) on the MI of 1,367 firms from four European countries. While INO and FAFIC are the factors identified as firms' resources and capabilities in the resource-based view (RBV), POLE, ECE, and LEGE are the pillars of institutional theory. We used a purposive sampling method based on job status, considering the survey participants' roles in MI-related business activities. We also generated an online survey to collect research data. Then, ordinal logistic regression analyses were performed for analysis purposes. The results of this paper prove country-level differences in the effect of INO, FAFIC, POLE, and LEGE on MI, while the impact of ECE on MI does not differ depending on the countries where businesses operate. Cultural characteristics and the business environment of various countries might be the reasons for the findings. Since this paper conceptualizes the determinant factors of MI in different countries and provides various MI practices that increase the competitiveness of businesses in a multi-country context, policymakers, firms, and academicians can benefit from the arguments of this comprehensive study.

1 INTRODUCTION

Due to significant advancements in digital technologies and e-commerce activities (Ahmed et al., 2024), MI activities have become highly effective tools for businesses to enhance their competitiveness against rivals and achieve their targets. MI includes many changes in the products or services of companies (Dwivedi & Pawsey, 2023), including changes in packaging, promotion, pricing, and design activities (Qi et al., 2020). Innovative firms also apply and use marketing communication tools (Sobre Frimpong et al., 2023), social media platforms (Nsiah et al., 2024), and marketing mix (Lincényi & Bulanda, 2023) to improve their products and services (Abou-Shouk et al., 2024). Thus, by performing MI activities, firms can differentiate themselves from their rivals, increase customer loyalty, profits, market share, and competitive advantages against their rivals (Persaud et al. 2021), improve their financial performance, and set closer relationships with their customers (Moreira et al., 2012). MI has been categorized as

a resource-based view (RBV)-related capability of businesses since firms performing MI can create valuable, rare, inimitable, and non-substitutable resources (Jeong & Chung, 2023).

According to Wilson et al. (2023), INO is the most common measurement to evaluate innovation culture and makes greater contributions to the innovation performance of businesses than other measurements. This is because INO is defined as innovative strategies and activities of businesses to increase their innovative abilities and business processes (Engelen et al., 2014). INO is closely related to market knowledge, and it requires market dynamism. Thus, it is a dynamic capability of firms included in innovation-related resources and capabilities of RBV (Jaakkola et al., 2010). INO also increases the financial performance and competitiveness of firms as well (Liao et al., 2022). For these reasons, firms and entrepreneurs can use their INO to achieve better outcomes from their MI activities.

On the other hand, acquiring financial capital from external sources has been one of the biggest troubles of businesses, especially for SMEs (Agboola et al., 2023; Muthee & Maina, 2023; Civelek et al., 2024), having lower assets (Civelek et al., 2023a), more risks (Kuděj et al., 2023), and a fragile structure (Civelek et al., 2023b). This is because external finance is more costly and risky for those businesses (Jansen et al., 2023). In this regard, businesses look for alternative sources such as FAFIC that represent firms' ability to increase their internal capital. It might be used for MI, and it is related to financial resources and capability, as explained in RBV (Peng, 2009). It is also the most significant source of financial support provided by family members to stimulate entrepreneurial initiatives and competitiveness of businesses (Edelman et al., 2016).

Furthermore, POLE, ECE, and LEGE, which belong to institutional theory, have been some of the major factors affecting MI activities (Trinugroho et al, 2021; Dwivedi & Pawsey, 2023). Economic, legal, and political rules and regulations reduce transaction costs, risks, and uncertainties and provide benefits for the stimulation of dynamic capabilities such as innovation (Tran et al., 2022). Moreover, firms from institutionally developed markets are more effective in MI activities and become more competitive when operating outside of their home region (Gómez-Bolaños et al., 2022). For these reasons, improvements in institutional quality increase MI activities (Qi et al., 2020).

However, the business environment differs depending on countries, since countries have institutional diversities (Tran et al., 2022). For instance, political and economic instability and regulatory issues regarding intellectual property rights in various countries are signs of a weak institutional quality that reduces the competitiveness and innovation capability of businesses (Aghazada & Ashyrov, 2022). For these reasons, various circumstances in POLE, ECE, and LEGE of different countries can lead to different MI outcomes for businesses. In this regard, this paper investigates whether the impacts of POLE, ECE, and LEGE differ depending on the countries the businesses are located. Similarly, this paper examines the country-level differences in the impacts of RBV-related factors such as INO and FAFIC on MI. In line with those research aims, the research question is as follows: Are there any significant country-specific differences in the impact of INO, FAFIC, POLE, ECE, and LEGE on the MI of businesses?

Some researchers have already substantiated the impact of institutional (Wang et al., 2021) and RBV-related factors, including INO (Bodlaj et al., 2020; Dwivedi & Pawsey, 2023) and FAFIC (Moreira et al, 2012; Hu et al., 2022), on MI activities of businesses. Moreover, some other

researchers have also made country comparisons in the MI activities of enterprises (Bodlaj et al., 2020). However, none of the studies mentioned above have examined the country-level differences in the impacts of institutional theory-based and RBV-related factors on the MI activities of businesses. Since this paper focuses on both theories that represent opportunities, threats (institutional theory), weaknesses, and strengths of businesses (RBV), it provides a comprehensive framework for businesses to consider when planning or performing their MI activities. For these reasons, combining these theories in a unique study and creating such a framework for MI operations of businesses are the major theoretical and practical contributions of this paper. On the other hand, this paper investigates various factors in firms' external (POLE, ECE, LEGE) and internal environment. The factors in the internal environment are related to firms' MI and financial capabilities. This paper also explains the country-level differences in these capabilities by focusing on cultural differences among some Central and Eastern European countries. This is another significant argument that makes this paper a unique interdisciplinary study in marketing and finance literature.

The rest of the paper will be structured as follows: Development of the research hypotheses will be presented in the theoretical background section. Then, we will provide details regarding the research objective, methodological approaches, and research data in the third section, namely, research objective, methodology, and data. This paper presents the research results, comparing them to other studies' findings in the results and discussion section, and provides prospective reasons for the results. Lastly, we will emphasize the most important arguments of this paper in the conclusion section, with the limitations of this study and with some recommendations for further studies.

2 THEORETICAL BACKGROUND

2.1. INO AND MI

INO has also been a motivational factor for entrepreneurs to achieve their aims regarding their personal interests and business operations and to search for technological developments and other innovative activities of companies (Douglas et al., 2021). Some researchers find positive impacts of INO-related activities on MI of businesses by analyzing firms from various countries, including Italy (Bodlaj et al., 2020) and Australia (Dwivedi & Pawsey, 2023). However, the impact of INO on MI might differ depending on the countries where businesses operate, since countries have various institutional environments (Wilson et al., 2023) and cultural characteristics (Bennett & Nikolaev, 2021).

For instance, Jaakkola et al. (2010) examine the INO of Austria, Finland, and Germany and confirm that Austria is the most effective country in INO compared to Finland and Germany. These researchers also verify country-level differences in MI activities, with Germany being the most effective in those actions. Similar to Jaakkola et al. (2010), Dobni and Klassen (2015) substantiate country-level differences in the INO of Canadian and U.S. companies. Moreover, Wilson et al. (2023) analyze firms from different countries, including Canada, India, the United Kingdom, the United States, Germany, Japan, and China, and confirm the differences in INO and MI activities of businesses. The researchers declare that companies in Germany, India, the United Kingdom, and the United States have greater INO than companies in Canada. Moreover, Prokop et al. (2024) verify the international differences in process innovation activities by analyzing the Czech Republic, Estonia, Latvia, Lithuania, Poland, and Slovakia. Bernhofer and Han (2014) find country-level differences in the INO of individuals from China and some

developed countries. Jagodič and Milfelner (2022) examine some Slovenian, Serbian, and Austrian firms and highlight the greater impact of MI on the performance of Serbian businesses. Hofstede's cultural dimensions can be applied to indicate country-level differences in the impact of INO on MI since it has been used by some researchers when making country-level analyses of INO and MI (Tekic & Tekic, 2021).

2.1.1. Individualism/Collectivism

Engelen et al. (2014) analyze international differences in the impact of INO on the performance of firms from some countries such as Austria, Germany, Singapore, Switzerland, Thailand, the United States, Argentina, and China and confirm the greater impact of INO in individualistic countries compared to collectivistic countries. Moreover, Bennet and Nikolaev (2021) analyze a sample of 84 countries and conclude that individualistic countries are more innovative than collectivistic nations. Soltwisch et al. (2023) also compare the entrepreneurial attitudes of prospective entrepreneurs from individualistic and collectivist countries, the United States and Slovenia, respectively. The scholars note that people from individualistic cultures exert greater efforts to find entrepreneurial opportunities and have more entrepreneurial intentions. People in individualistic cultures perceive innovative initiatives more positively as well (Liñán et al., 2016). According to some researchers (Bennet & Nikolaev, 2021; Boubakri et al., 2021), individuals in individualistic societies have loose relations with other people, and this fact makes them more open to changes with more freedom, and this attitude directs them to take more innovative actions. However, individuals in collectivist societies have closer ties with other people, and they cooperate with other people in their group. Thus, their INO might be reduced so as not to break group harmony (Bennett & Nikolaev, 2021), and MI can be negatively affected by such behavior of people in collectivistic societies.

2.1.2. Uncertainty Avoidance

While individuals in low uncertainty avoidance cultures are more tolerant of taking innovative actions under uncertain conditions, people in high uncertainty avoidance cultures are reluctant to take risks under unknown situations (Boubakri et al., 2021). Thus, uncertain conditions are perceived as a threat in high uncertainty avoidance cultures since people do not feel comfortable in such circumstances. Since INO-related activities require taking risks, countries with low uncertainty avoidance are more likely to perform INO operations. In this regard, Engelen et al. (2014) examine some countries with high and low uncertainty avoidance cultures and confirm the greater impact of INO on the performance of companies in low uncertainty avoidance cultures compared to high uncertainty avoidance cultures. Similarly, Liñán and Chen (2009) compare a low and a high uncertainty avoidance culture and posit that the country with a low uncertainty avoidance culture is more encouraged to take innovative actions compared to the country with a high uncertainty avoidance culture. In this regard, it might be assumed that the impact of INO on MI activities might be positive in countries with lower values in the uncertainty avoidance dimension.

2.2. FAFIC and MI

FAFIC is less costly and risky compared to external finance (Boubakri et al., 2021) and provides more freedom and benefits for entrepreneurs and firms to make longer-term investments (Hu et al., 2022). For these reasons, firms can be motivated to get family financial capital to implement MI activities (Karadal et al., 2021). Moreover, having a lack of years of working experience and amount of collateral makes startups receive funds from family and friends (Edelman et al.,

2016). Although FAFIC makes a positive contribution to MI activities, this fact can differ depending on the cultural differences of countries where businesses operate (Bedendo et al., 2020). In this regard, Edelman et al. (2016) analyze individuals from 19 different countries located in Europe, South Africa, and South America and report country-level differences in the impact of family support on innovation activities.

On the other hand, firms' financing preferences might differ depending on the countries where they do their business. For instance, Koch et al. (2022) find differences between British and German businesses regarding firms' financing solutions. By comparing the financing choices of Italian and German managers, Bedendo et al. (2020) infer the differences in financing preferences of executives from different countries. According to these researchers, Italian managers are more prone to get external debt financing compared to their German counterparts. Furthermore, Civelek et al. (2019) observe microenterprises from Czechia and Slovakia and corroborate more negative perceptions of Slovak firms than their Czech counterparts regarding banks' lending approaches, credit conditions, and availability of credit. In this regard, the negative perception of firms regarding bank financing or their lack of bank credit access might make them receive more funds from their family members. Thus, they might be more obliged to use FAFIC for their MI activities.

2.2.1. Individualism/Collectivism

In individualistic societies, where members have loose ties and prefer independence, they tend to be more interested in applying for external funding. On the other hand, people in collectivist societies tend to help others within their group because they are motivated to achieve group goals over their individual objectives. In this regard, individuals in collectivist societies can receive greater financial support from their family members compared to people from individualistic societies, and they can be discouraged from applying for funds from external sources. Osei-Tutu and Weill (2023) have outlined these facts by analyzing firms from 57 countries. Similar to Osei-Tutu and Weill (2023), Koch et al. (2022) elucidate that executives in individualistic cultures are more likely to apply external debt than executives in countries with collectivist cultures. According to Boubakri and Saffar (2016), institutions in individualistic societies also direct firms to fulfill contractual rules that minimize transaction costs and information asymmetries and increase external credit access. Governments in individualistic societies can tolerate riskier activities of enterprises and accommodate riskier loan transactions of banks to play a successful intermediary role between lenders and borrowers (Mourouzidou-Damtsa et al., 2019). Therefore, financing institutions in individualistic societies might provide more credit opportunities for enterprises to access finance, and they can not rely on FAFIC. Since the financing choices of businesses in individualistic/collectivistic societies differ, the impact of FAFIC on MI can be different depending on the countries where businesses are located.

2.2.2. Uncertainty Avoidance

Since getting external credit is a riskier process that includes various uncertain situations for firm executives, individuals in high uncertainty avoidance cultures can be more interested in receiving FAFIC to perform MI activities. On the other hand, firms and company executives in a low uncertainty avoidance culture like taking risks, and they feel comfortable under uncertain credit access processes. Some researchers also corroborate the fact that countries with a high

level of uncertainty avoidance have lower propensities to look for external debt financing to reduce their risks (Koch et al., 2022).

2.2.3. Country Classification and 1st and 2nd Research Hypotheses

According to The Culture Factor (2024), the values of Czechia, Hungary, Poland, and Slovakia from the individualism dimension are 70, 71, 47, and 57, respectively. Moreover, the scores of Czechia, Hungary, Poland, and Slovakia from the uncertainty avoidance index are 74, 82, 93, and 51 (The Culture Factor, 2024). The value of Poland from the individualism index affirms that Poland can not be categorized as a collectivist country. On the other hand, except for Slovakia, other countries can be called a high uncertainty avoidance culture. Different scores of the countries from these indexes lead us to state our 1st and 2nd research hypotheses as follows:

H1: The impact of INO on MI differs depending on the countries where businesses operate.

H2: The impact of FAFIC on MI differs depending on the countries where businesses operate.

2.3. POLE and MI

The role of policymakers is crucial, since they implement various strategies to stimulate or limit marketing (Uyar et al., 2024) and innovation activities (Fang & Wang, 2024). For instance, governments can provide technological incentives to support businesses' MI activities or offer incentives for firms to enhance their marketing strategies (Cheah, 2021). However, these policies and incentives might differ depending on the countries.

For instance, Mountford and Geiger (2024) compare the roles of the Irish and U.S. governments in the MI activities of firms. In this regard, these authors confirm the differences in governments' approach to MI. While the U.S. government provides rewards for MI outcomes of businesses, the Irish government provides support for firms that have the potential to make effective MI activities. Moreover, Carpio et al. (2020) examine firms from France and Costa Rica and explain country-level differences in some MI activities of those businesses by mentioning government support as a reason for those differences. Furthermore, Bilan et al. (2019) compare the perceptions of Czech, Slovak, and Polish individuals regarding the financial support of the state and declare the negative perception of Czech people regarding state support.

R&D expenditure to GDP ratio can be a good indicator representing country-level differences regarding governments' support in innovation activities. This is because it is used as a measurement of innovation activities by some researchers to show international differences in this context (Medhioub & Boujelbene, 2025). In this regard, greater volumes from this indicator show greater support of governments to companies. Thus, MI activities might be greater in countries providing more financial support for R&D operations. According to Statista (2022), the research and development expenditure to GDP ratios for Czechia, Hungary, Poland, and Slovakia are 1.96%, 1.39%, 1.46%, and 0.98%, respectively. Concerning the volume of GDP, Slovakia has the lowest amount (World Bank, 2022).

On the other hand, corruption is another issue that harms innovation activities (Díez-Martín et al., 2016; Trinugroho et al., 2021). This is because corruption causes unfair competition and negatively affects the allocation of resources (Feng et al., 2021). Moreover, firms with close ties to policy-makers can secure more funding and make additional investments in MI practices,

and vice versa. According to Transparency International (2022), the ranking of countries in the Corruption Perception Index is 41, 77, 45, and 49, respectively, for Czechia, Hungary, Poland, and Slovakia. This ranking indicates greater corruption issues in the Hungarian market than in the others. Since the R&D to GDP ratio, GDP volume, and corruption ranking of countries are different, the impact of POLE on MI might differ depending on the countries where businesses operate. These arguments enable another hypothesis as follows:

H3: The impact of POLE on MI differs depending on the countries where businesses operate.

2.4. ECE and MI

The quality of economic institutions and economic development in a country determines and stimulates innovation (Bennett & Nikolaev, 2021). For instance, innovation activities can be reduced in countries having economic uncertainty and unstable monetary policies (Yoon et al., 2024). Although the positive association between various innovation activities and the development of a country's economy has been vindicated and emphasized by some researchers (Uyar et al., 2024), different economic and financial development levels of countries might change the impact of economic factors on MI. In this regard, Medhioub and Boujelbene (2025) observe 300 countries and verify that the association between innovation and economic growth is stronger in high-income countries than in upper-middle-income countries. GDP growth rate can be a strong argument to show country-level differences in the economic development of countries and innovation performance (Boubakri et al., 2021). Higher volumes from this factor indicate greater innovation activities of firms.

Trinugroho et al. (2021) also analyze the innovation performance of developed and developing countries and confirm the differences between them. According to those scholars, financial development in developed countries also enables them to have greater innovation outcomes. This is because well-developed financial markets reduce the risks of uncertain innovation activities and provide easier credit access for businesses; thus, firms in those markets will be stimulated to take innovative actions. Those researchers also highlight the importance of GDP level since higher income improves countries' abilities to perform greater innovation activities.

On the other hand, Feng et al. (2021) compare the innovation efficiency of 34 high-income and 23 middle-income countries and confirm a greater marketing efficiency in high-income countries than in middle-income countries. They also apply the Index of Economic Freedom to compare the quality of economic institutions and the economic growth of countries. Accordingly, countries having greater scores on this index have better economic institutions and economic growth. The positive association between economic freedom and innovation activities has also been vindicated by Angulo-Guerrero et al. (2017). Bennett and Nikolaev (2021) analyze the relationship between pro-market institutions and innovation in 84 countries and confirm the positive association. They used the Fraser Institute's Economic Freedom Index, which includes different variables gained from various institutions, including the World Bank, IMF, and Global Competitiveness Report, and they found that countries with higher EFW index values also have more stable monetary environments and lower obstacles to doing business than other countries with lower rankings from this indicator. Due to such arguments, GDP growth rate, GDP volumes of countries, and their values from the Index of Economic Freedom and EFW indexes will be considered to indicate country-level differences in the investigated relationships.

Tab. 1- Differences of analyzed countries in the selected economic indicators
Source: World Bank, 2022; Heritage, 2022; Fraser Institute (2022).

Country	GDP Growth rate 2022	GDP Volume 2022 millions of US dollars	Index of Economic Freedom	EFW index by Fraser Institute
Czechia	2.33%	290.924	74.4	7.65
Hungary	4.3%	178.789	66.9	7.12
Poland	5.26%	688.177	68.7	6.85
Slovakia	1.75%	115.469	69.7	7.39

As presented in Table 1, the values of countries from GDP growth rate, GDP, Index of Economic Freedom, and EFW index indicate that the economic conditions of countries are different. In this regard, these factors might make businesses perceive the economic environment differently. Thus, another hypothesis might be generated as presented below:

H4: The impact of ECE on MI differs depending on the countries where businesses operate.

2.5. LEGE and MI

Innovation activities, investments, and property rights are more protected in environments where the quality of the legal environment is high (Yoon et al., 2024). Firms operating in an environment with more developed legal institutions are more likely to perform MI practices, including packaging, advertising, and promotion activities (Qi et al., 2020). Thus, developments in legal institutions positively affect the innovation activities of enterprises (Gómez-Bolaños et al., 2022). This is because legislative institutions enforce rules and regulations more effectively in high-quality legal environments, and this fact minimizes opportunistic behaviors, imitation activities, and unfair market practices of organizations (Tran et al., 2022). Regulatory quality is another significant factor in promoting innovation activities (D'Ingiullo & Evangelista, 2020). Firms operating in a high-quality regulatory environment can take required actions against their informal rivals that imitate them or apply other unfair practices (Miocevic et al., 2022). High regulatory quality represents high enforceability of law and rules, transparent and equal conditions for all businesses, and fair competition in a market. For these reasons, firms operating in high-quality regulatory environments feel confident to make investments in innovative operations (Rodríguez-Pose & Zhang, 2020). High regulatory environments also reduce obstacles to doing business; thus, the operational costs of firms decrease, and firms can spend more resources on innovation activities (D'Ingiullo & Evangelista, 2020).

Since the regulatory and legislative quality differs depending on countries, the impact of these factors on the MI activities of businesses might be different. In this regard, Mountford and Geiger (2024) also investigate legislative environments in Ireland and the United States and find differences in legislative environments that cause variations in the MI of businesses. Some researchers declare the impact of the quality of legal institutions on MI and use worldwide governance indicators (WGI) created by the World Bank to show country-level differences. (Qi et al., 2020; Feng et al., 2021; Gómez-Bolaños et al., 2022). WGI measures the legislative and regulatory quality of countries (Feng et al., 2021; Gómez-Bolaños et al., 2022).

On the other hand, firms operating in environments with greater IPR protection feel more secure to produce new products and to implement more MI (Miocevic et al., 2022). For this reason, the IPR index is also a determinant factor to indicate country-level differences in innovation activities (Díez-Martín et al., 2016). Patent protection is another important factor for firms to

secure their innovative outcomes. Thus, firms can implement more innovative strategies in countries that have greater values from the Patent Protection Index (Boubakri et al., 2021).

Tab. 2-Differences of analyzed countries in the selected legislative indicators
Source: World Bank, WGI, 2022; International Property Rights Index, 2022.

Country	Rule of Law 2022	Regulatory Qality 2022	Protection Of IPR	Patent Protection
Czechia	83.49	88.68	6.677	7.217
Hungary	63.21	64.62	6.371	6.668
Poland	64.15	74.53	5.932	6.251
Slovakia	70.28	76.89	5.999	5.918

Table 2 depicts the volumes of analyzed countries from rule of law, regulatory quality, protection of IPR, and patent protection indicators. According to the table, the values that countries have from these indicators representing the legal environment are different. Due to such arguments, another hypothesis is as follows:

H5: The impact of LEGE on MI differs depending on the countries where businesses operate.
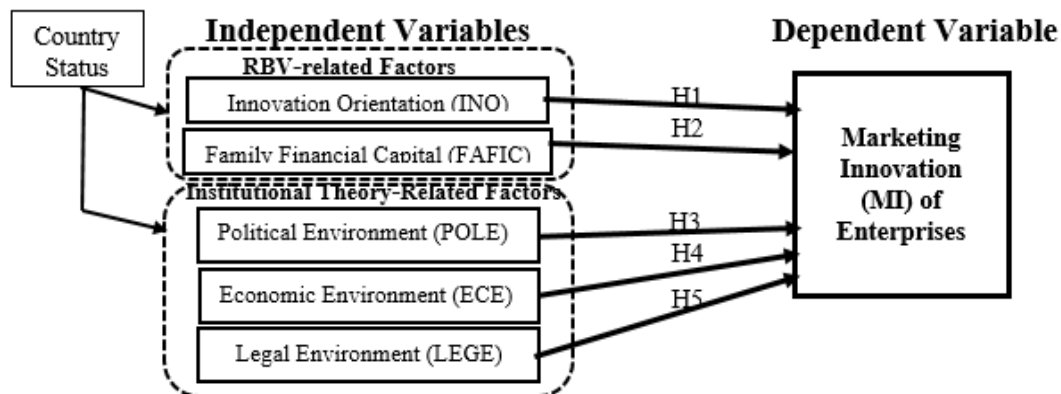

Fig. 1- Conceptual framework. Source: own research.

3 RESEARCH OBJECTIVE, METHODOLOGY, AND DATA

This paper examines whether international differences exist in the impacts of RBV-related factors (INO and FAFIC) and institutional theory-based factors (POLE, ECE, LEGE) on MI. The perceptions of 568 Czech, 92 Hungarian, 331 Polish, and 376 Slovakian firm executives are analyzed to achieve this research goal. Hence, the executives of 1,367 firms that are in SMEs and large firm segments, and from service, manufacturing, and trade industries, are included in the research sample. Moreover, firm executives who are the firm's owners, managers, or shareholders are from different age groups and have different years of working experience. The details regarding the sample profile are presented in Table 3 as follows:

Tab. 3- Sample profile. Source: own research.

n:sample size		Czech n&Share		Hun n&Share		Polish n	Share	Slovak n	Share
Firm size	Micro	190	33.45%	33	35.87%	184	55.59%	120	31.92%
	Small&Medium	181	31.87%	28	30.43%	90	27.19%	161	42.82%
	Large	197	34.68%	31	33.70%	57	17.22%	95	25.26%
	Total	568	100%	92	100%	331	100%	376	100%

Firm sector	Service	319	56.16%	59	64.13%	163	49.24%	237	63.03%
	Trade	140	24.65%	19	20.65%	137	41.39%	84	22.34%
	Manufacturing	109	19.19%	14	15.22%	31	9.37%	55	14.63%
	Total	568	100%	92	100%	331	100%	376	100%
Respondents' Age	Up to 36	284	50.00%	21	22.83%	69	20.85%	158	42.02%
	36 to 45	128	22.54%	17	18.47%	81	24.47%	90	23.94%
	More than 45	156	27.46%	54	58.70%	181	54.68%	128	34.04%
	Total	568	100%	92	100%	331	100%	376	100%
Respondents' years of experience	Up to 5 years	204	35.92%	26	28.26%	158	47.73%	140	37.23%
	5 to 10 years	87	15.32%	12	13.04%	41	12.39%	45	11.97%
	More than 10	277	48.76%	54	58.70%	132	39.88%	191	50.80%
	Total	568	100%	92	100%	331	100%	376	100%

We generated an online survey to gain research data, and this questionnaire was directed to prospective respondents in their mother tongue via Facebook. Although we created the questionnaire in English, we translated the same survey questions into the native languages of the survey participants. The data collection process took around six months, starting from January 2023.

A purposive sampling method based on respondents' job status was applied. This is because survey questions aim to indicate details regarding firms' resources, respondents' capabilities, and their perception of political, economic, and legal conditions. Thus, individuals who are informed of these factors are mostly firms' executives, including owners, managers, and shareholders. In this regard, survey respondents who are not firm executives were excluded from the analyses.

We focused on 16 survey questions from the survey to achieve the goal of this paper. While INO, FAFIC, POLE, ECE, and LEGE are measured by three survey questions, MINNO is evaluated by a statement applied by Ferraris et al. (2019). On the other hand, this paper follows the measurements of Bilan et al. (2019) when evaluating the perceptions of the survey respondents regarding POLE, ECE, and LEGE. Moreover, we used the measurements of some studies when assessing INO (Bernhofer & Han, 2014), and FAFIC (Edelman et al., 2016). The validity and reliability of the independent variables have already been established by the studies of Bilan et al. (2019), Bernhofer and Han (2014), and Edelman et al. (2016). For this reason, this paper has not performed reliability and validity tests for these constructs. The details regarding those measurements are depicted in Table 4 as follows:

Tab. 4- Variables and measurements. Source: own research.

Variables	Measurements
INO (Bernhofer & Han, 2014)	"1= not important, 2= neutral, 3=important"
"How important are (or were) the following motives for your future work (or previous works) and career path?	1- "Be innovative, at the forefront of technology". 2- "Develop an idea for a product". 3- "Grow and learn as a person."
FAFIC (Edelman et al., 2016)	"1= disagree, 2=neutral, 3=agree"
"Please indicate the level of agreement with the following statements:"	1- "My parents/family provide (or provided) me with debt capital." 2- "My parents/family provide (or provided) me with equity capital." 3- "The capital provided by my parents/family has favorable and flexible conditions."
POLE (Bilan et al., 2019)	""1= disagree, 2=neutral, 3=agree"

"Please indicate the level of agreement with the following statements:"	1- "The state supports entrepreneurship through the use of specific tools."
	2- "The state creates high-quality conditions for starting a business."
	3- "The state financially supports business."
ECE (Bilan et al., 2019)	""1= disagree, 2=neutral, 3=agree"
"Please indicate the level of agreement with the following statements:"	1- "I consider the macroeconomic environment in my country to be positive for doing business."
	2- "The state of macroeconomic environment in my country supports the launch of new businesses."
	3- "Present macroeconomic environment does not prevent me from starting a business."
LEGE (Bilan et al., 2019)	""1= disagree, 2=neutral, 3=agree"
"Please indicate the level of agreement with the following statements:"	1- "Business environment in my country is of good quality and convenient for starting a business."
	2- "Business environment in my country is relatively risk-resistant and enables starting a business."
	3- "Conditions for doing business have improved in my country in the last five years."
MI (Ferraris et al., 2019)	"1= disagree, 2=neutral, 3=agree"
"Indicate your level of agreement with the following sentence":	"For three years, compared to the average competitor in the same industry, the firm has successfully achieved a rise in the marketing innovation outcomes."

As indicated in Table 4, we used a three-point Likert scale as "1=disagree, 2=neutral, 3=agree", and "1-not important", "2-neither important nor important", "3-important" to scale the replies of the firm executives regarding INO, FAFIC, POLE, ECE, LEGE, and MI. Thus, the highest value that the respondents select represents positive perceptions regarding INO, FAFIC, POLE, ECE, LEGE, and MI. On the other hand, a three-point Likert scale is transformed from a 5-point scale. The scales of "completely agree" and "agree" in a 5-point Likert scale are transformed into "agree" in a three-point Likert scale.

Since the dependent variable (MI) and the independent variables (INO, FAFIC, POLE, ECE, LEGE) of this study are measured by the Likert scale that includes ordinal and ranked data, ordinal logistic regression analyses were applied. This method is quite popular when measuring MI (Miocevic et al., 2022; Dwivedi & Pawsey, 2023). Besides the the ordinal logistic regression test, this study performs -2 log-likelihood, chi-square, Cox & Snell, Nagelkerke, and Durbin-Watson test statistics for assumption testing. We conducted all these analyses using the SPSS program and the logit function. The research models can be illustrated as follows:

"$logit(P(Y=1|X))=\beta_0+\beta_1 X_1$, where $logit(p)= \ln[p/(1-p)]$"
"X– Independent variable (X_1: INO for the 1st research model, X_1: FAFIC for the 2nd research model, X_1: POLE for the 3rd research model, X_1: ECE for the 4th research model, X_1: LEGE for the 5th research model)"
"Y= Ordinal outcome, dependent variable" (MI)
"P – Probability of Y to be 1 (Y = 1)"
"p/(1-p) – odds ratio"
"$\ln[p/(1-p)]$ – log odds ratio, or logit"
"β_1 – Regression coefficients"
"β_0 – Constant term"

The results of the assumption testing are shown in Table 5. We selected a 5% significance level to analyze the model-fitting assumption. P-values that are lower than this significance level ensure that this assumption is not violated. This is because the inclusion of predictor variables into the research models verifies a better model fit. In this regard, while the addition of INO into the 1st model fit represents a better model fit for all research samples, (Czech: $\chi^2(2)$ = 6.894, p-value < 0.05; Hungarian: $\chi^2(2)$ = 13.341, p-value < 0.05; Polish: $\chi^2(2)$ = 8.694, p-value < 0.05; Slovakian: $\chi^2(1)$ = 26.455, p-value < 0.05), this fact is not correct for other research models. This is because while all p-values are lower than a 5% level of significance for the 1st research model, some p-values are greater than this selected significance level for other research models (Model 2: Czech: $\chi^2(2)$ = 4.019, p-value > 0.05; Hungarian= $\chi^2(2)$ = 4.794, p-value > 0.05; Model 3: Hungarian: $\chi^2(2)$ = 2.027, p-value > 0.05; Slovak: $\chi^2(2)$ = 1.872, p-value > 0.05; Model 4: Hungarian: $\chi^2(2)$ = 4.459, p-value > 0.05; Polish: $\chi^2(2)$ = 4.638, p-value > 0.05; Slovak: $\chi^2(2)$ = 4.367, p-value > 0.05; Model 5: Czech: $\chi^2(2)$ = 5.646, p-value > 0.05; Hungarian: $\chi^2(2)$ = 1.714, p-value > 0.05; Slovak: $\chi^2(2)$ = 3.298, p-value > 0.05). For instance, while the addition of INO into the first research model has caused better predicting outcomes to explain the changes in MI in all research samples, the inclusion of FAFIC into the second research model has only shown better predicting ability for the changes in MI in Polish and Slovakian samples. Some similar results are in existence for other research models as well. To sum up, while INO is a significant independent variable to predict MI in all samples, FAFIC, POLE, ECE, and LEGE are not good at predicting MI for different research samples. For these reasons, this fact might also signal country-level differences in the impact of independent variables on the MI, which is the dependent variable of all research models.

Tab. 5-The assumption testing for ordinal regression models. Source: own research.

Assumptions		Model fitting				Goodness of fit Pseudo R-square		Independence of Errors
Sample	Models	-2 Log likelihood	Chi-Square	df	P value	Cox & Snell	Nagelkerke	Durbin-Watson test statistics
Czech	Model 1	53.435	6.894	2	0.032	0.012	0.013	2.052
Hun	Model 1	42.158	13.341	2	0.001	0.013	0.014	1.961
Polish	Model 1	49.208	8.694	2	0.001	0.026	0.028	2.038
Slovak	Model 1	77.217	26.455	2	0.013	0.068	0.074	2.022
Czech	Model 2	67.722	4.019	2	0.134	0.012	0.013	2.065
Hun	Model 2	32.896	4.794	2	0.091	0.051	0.055	1.998
Polish	Model 2	51.762	8.117	2	0.017	0.014	0.015	2.065
Slovak	Model 2	55.426	8.497	2	0.014	0.022	0.024	2.000
Czech	Model 3	69.414	8.183	2	0.017	0.014	0.015	2.075
Hun	Model 3	37.340	2.027	2	0.363	0.022	0.024	1.915
Polish	Model 3	58.432	6.659	2	0.036	0.020	0.022	2.055
Slovak	Model 3	52.871	1.872	2	0.392	0.005	0.005	2.041
Czech	Model 4	67.820	12.226	2	0.002	0.021	0.023	2.062
Hun	Model 4	38.841	4.459	2	0.108	0.073	0.078	1.927
Polish	Model 4	50.238	4.638	2	0.098	0.014	0.015	2.062
Slovak	Model 4	51.264	4.367	2	0.113	0.012	0.013	2.040
Czech	Model 5	66.548	5.646	2	0.059	0.010	0.011	2.062
Hun	Model 5	31.603	1.714	2	0.424	0.018	0.020	1.914
Polish	Model 5	55.509	6.926	2	0.031	0.013	0.014	2.061
Slovak	Model 5	49.411	3.298	2	0.192	0.009	0.010	2.053

Note: Df: Degree of Freedom

The results from the Cox and Snell and Nagelkerke tests are considered to analyze the goodness of fit assumption. The volumes from these tests represent the percentage of the changes that independent variables cause in MI. For instance, the inclusion of INO in the 1st research model explains 1.3%, 1.4%, 2.8%, and 7.4% changes in MI for Czech, Hungarian, Polish, and Slovak samples, respectively. Similarly, while 1.5% and 2.2% of changes in MI can be explained by POLE in the 3rd research model for Czech and Polish samples, 1.4% of changes in MI can be clarified by the existence of LEGE in the 5th research model for the Polish sample.

Another assumption of the ordinal logistic regression test is the independence of errors. We used the Durbin-Watson test statistics to examine this assumption. This assumption deals with the autocorrelation issue between residual terms and the existence of a relationship between the cases and the research data. The existence of an autocorrelation issue between residual terms and the relationship between the cases and research data causes a violation of this assumption. The values from the Durbin-Watson test statistics need to be close to 2 to avoid these issues. According to Table 5, the values of the Durbin-Watson test statistics are between 1.914 and 2.075, which are close to 2. Thus, this paper does not violate the independence of errors assumption. As noted, each research model has only an independent variable, and that is why the paper does not analyze the multicollinearity assumption, which investigates the multicollinearity issues between independent variables of a research model.

On the other hand, we applied a 5% significance level for hypothesis testing. Higher p-values than this selected significance level lead researchers to fail to support the research hypotheses while supporting the null hypotheses, assuming the non-existence of country-level differences in the impacts of RBV and institutional theory-based factors on MI.

4 RESULTS AND DISCUSSION

4.1. Results

All the variables are measured by a three-point Likert scale. Therefore, the variables have two cut-off levels. The volume of 1 indicates the cut-off value between the responses of "disagree" to "from neither disagree to nor agree", while 2 shows the cut-off value between the replies of "neither disagree and/or disagree" to "agree" for the research variables, except INO. This is because the replies for INO are "not important", "neither not important nor important", and "important". However, the cut-offs for INO are the same as other measurements and are set in a similar manner.

The results indicating international differences in the impact of INO on MI are presented in Table 6. According to this table, INO is significant only in the Slovak sample, since p-values are lower than a 5% significance level (INO = 1: 0.000, INO= 2: 0.0000). Thus, INO is a significant predictor of MI only for the Slovak sample, while it does not significantly affect MI activities of businesses from the Czech, Hungarian, and Polish samples. This fact confirms the international differences in the impact of INO on MI and supports the H1 hypothesis. On the other hand, the values indicated under the "estimate" column are negative in the Slovak sample, and they are -1.055 and -0.931, respectively, for the cut-offs INO=1 and INO=2. Therefore, a negative impact of INO exists on MI, and Slovak firms with greater INO are less likely to perform MI compared to Slovakian businesses, indicating lower INO. To sum up, while INO negatively affects MI only in the Slovak sample, it does not have any impact on the MI of firms from Czechia, Hungary, and Poland. As INO does not have a positive effect on MI,

it may lead to a decline in the competitiveness of businesses. Cultural factors might explain this result, and we deal with this argument in detail in the discussion section.

Tab. 6- The results regarding 1st research model. Source: own research.

Country	Variable	Estimate	S.E.	Wald	df	P value	95% CI [Lower Upper]
Czechia	MI = 1	-0.329	0.107	9.371	1	0.002	[-0.539 -0.118]
	MI = 2	0.623	0.110	32.170	1	0.000	[0.408 0.839]
	INO = 1	-0.484	0.186	6.754	1	0.009	[-0.849 -0.119]
	INO = 2	-0.100	0.202	0.243	1	0.622	[-0.495 0.296]
Hungary	MI = 1	-0.379	0.268	1.996	1	0.158	[-0.904 0.147]
	MI = 2	0.645	0.276	5.481	1	0.019	[0.105 1.185]
	INO = 1	-1.677	0.492	11.627	1	0.001	[-2.641 -0.713]
	INO = 2	-0.883	0.560	2.488	1	0.115	[-1.981 0.214]
Poland	MI = 1	0.633	0.149	18.171	1	0.000	[0.342 0.925]
	MI = 2	1.419	0.171	69.028	1	0.000	[1.085 1.754]
	INO = 1	-0.690	0.253	7.453	1	0.006	[-1.185 -0.195]
	INO = 2	-0.463	0.252	3.390	1	0.066	[-0.956 0.030]
Slovakia	MI = 1	0.409	0.135	9.198	1	0.002	[-0.673 -0.145]
	MI = 2	0.403	0.135	8.928	1	0.003	[0.139 0.667]
	INO = 1	-1.055	0.241	19.158	1	0.000	[-1.527 -0.582]
	INO = 2	-0.931	0.257	13.111	1	0.000	[-1.435 -0.427]

Note: Sig.: significance SE: Standart Error. OR: Odds Ratio. CI: Confidence Interval

The results of the 2nd research model are depicted in Table 7. This table shows a significant result only for the Polish sample (P values for MI 2= 0.000 and FAFIC 2= 0.042). The value illustrated under the "estimate" column for "FAFIC=2" is also negative. This value affirms that every one-unit increase in FAFIC decreases the log-odds of falling to a greater level of MI by -0.655 for the Polish sample. Thus, Polish firms with greater FAFIC are less likely to have better outcomes from MI. This fact verifies the negative impact of FAFIC on MI only in Polish enterprises, while it does not impact the MI of Czech, Hungarian, and Slovak businesses. For these reasons, this study supports the H2 hypothesis. FAFIC does not positively affect, thereby limiting potential gains in firms' competitiveness. An economic factor, namely, GDP volumes of countries, might be the reason for this result, and it will be discussed in the next section.

Tab. 7. The results regarding 2nd research model. Source: own research.

Country	Variable	Estimate	S.E.	Wald	df	P value Sig.	95% CI [Lower Upper]
Czechia	MI = 1	-0.459	0.172	7.167	1	0.007	[-0.796 -0.123]
	MI = 2	0.498	0.172	8.396	1	0.004	[0.161 0.835]
	FAFIC = 1	-0.459	0.196	5.478	1	0.019	[-0.843 -0.075]
	FAFIC = 2	-0.039	0.230	0.029	1	0.864	[-0.489 0.411]
Hungary	MI = 1	-0.763	0.492	2.400	1	0.121	[-1.728 0.202]
	MI = 2	0.205	0.485	0.179	1	0.673	[-0.746 1.156]
	FAFIC = 1	-1.168	0.536	4.744	1	0.029	[-2.219 -0.117]
	FAFIC = 2	-0.796	0.730	1.188	1	0.276	[-2.226 0.635]
Poland	MI = 1	0.571	0.231	6.093	1	0.014	[0.118 1.024]
	MI = 2	1.353	0.245	30.414	1	0.000	[0.872 1.834]
	FAFIC = 1	-0.310	0.259	1.435	1	0.231	[-0.817 0.197]
	FAFIC = 2	-0.655	0.322	4.136	1	0.042	[-1.286 -0.024]
Slovakia	MI = 1	-.336	0.192	3.053	1	0.081	[-0.713 0.041]

MI = 2	0.447	0.193	5.373	1	0.020	[0.069	0.825]
FAFIC = 1	-0.619	0.228	7.345	1	0.007	[-1.066	-0.171]
FAFIC = 2	-0.163	0.289	0.318	1	0.573	[-0.729	0.403]

Table 8 demonstrates the results that deal with country-level differences in the effect of POLE on MI. A significant result exists only for the Polish sample (P values for MI 2= 0.000 and POLE 2= 0.010). The coefficient value for this cut-off is also negative for the Polish sample (-1.001). The A-unit decrease in Polish firms' perception of POLE 1.001 times higher the odds of occurrence of MI with a 95% confidence interval between -1.768 and -0.235. Thus, Polish businesses with the highest value in POLE are less likely to indicate better MI performance compared to enterprises with a less optimistic perception of POLE. In this regard, this paper verifies the negative effect of POLE on the MI of Polish firms, while it does not substantiate a significant effect of POLE on MI for other research samples. For this reason, this paper supports the H3 hypothesis. Sufficient government policies related to POLE might contribute positively to firms' competitiveness. However, a lack of government support for ICT investment might reduce firms' MI, which is positively associated with firm competitiveness. Therefore, ICT investments will be discussed in the next section to clarify the reason for the negative impact of POLE on MI in the Polish sample.

Tab. 8- The results regarding 3rd research model. Source: own research.

Country	Variable	Estimate	S.E.	Wald	df	P value	95% CI [Lower Upper]
Czechia	MINNO = 1	-0.556	0.199	7.786	1	0.005	[-0.946 -0.165]
	MINNO = 2	0.402	0.198	4.111	1	0.043	[0.013 0.791]
	POLS = 1	-0.560	0.222	6.349	1	0.012	[-0.996 -0.124]
	POLS = 2	-0.197	0.235	.697	1	0.404	[-0.658 0.265]
Hungary	MINNO = 1	-0.227	0.438	0.268	1	0.604	[-1.086 0.632]
	MINNO = 2	0.726	0.445	2.658	1	0.103	[-0.147 1.599]
	POLS = 1	-0.594	0.494	1.445	1	0.229	[-1.562 0.374]
	POLS = 2	-0.038	0.625	0.004	1	0.951	[-1.262 1.186]
Poland	MINNO = 1	0.424	0.305	1.927	1	0.165	[-0.175 1.022]
	MINNO = 2	1.207	0.315	14.698	1	0.000	[0.590 1.824]
	POLS = 1	-0.422	0.323	1.700	1	0.192	[-1.055 0.212]
	POLS = 2	-1.001	0.391	6.563	1	0.010	[-1.768 -0.235]
Slovakia	MINNO = 1	0.039	0.314	0.015	1	0.901	[-0.577 0.655]
	MINNO = 2	0.808	0.317	6.476	1	0.011	[0.186 1.430]
	POLS = 1	-0.079	0.332	0.056	1	0.812	[-0.729 0.571]
	POLS = 2	0.245	0.378	0.419	1	0.517	[-0.496 0.986]

Table 9 shows the results of the 4th research model. As represented in this table, all p-values for the 2nd cut-off level of ECE are insignificant. This is because p-values are 0.534, 0.061, 0.075, and 0.858, respectively, for Czech, Hungarian, Polish, and Slovak samples, and they are higher than a 5% level of significance. In light of these findings, this paper proves the insignificant impact of ECE on MI for all research samples. Hence, this paper fails to support the H4 hypothesis. Although the quality of ECE in a country determines MI, which positively affects the competitiveness of companies, this paper finds an insignificant impact of ECE on MI. Thus, international differences do not exist in this specific impact. Similar levels of ECE in the analyzed countries may be an argument to support this result addressed in the Discussion.

Tab. 9- The results regarding 4th research model. Source: own research.

Country	Variable	Estimate	S.E.	Wald	df	P value	95% CI [Lower Upper]	
				MODEL-1				
Czechia	MI = 1	-0.514	0.181	8.073	1	0.004	[-0.869	-0.160]
	MI = 2	0.445	0.181	6.063	1	0.014	[0.091	0.799]
	ECE = 1	-0.623	0.212	8.667	1	0.003	[-1.038	-0.208]
	ECE = 2	-0.134	0.215	0.386	1	0.534	[-0.556	0.288]
Hungary	MI = 1	0.250	.453	0.305	1	0.581	[-0.637	1.138]
	MI = 2	1.249	.474	6.945	1	0.008	[0.320	2.177]
	ECE = 1	-0.165	.502	0.108	1	0.742	[-1.149	0.818]
	ECE = 2	1.298	.693	3.507	1	0.061	[-0.061	2.656]
Poland	MI = 1	0.542	.352	2.371	1	0.124	[-0.148	1.232]
	MI = 2	1.323	.361	13.425	1	0.000	[0.615	2.031]
	ECE = 1	-0.257	.368	0.488	1	0.485	[-0.979	0.464]
	ECE = 2	-0.722	.405	3.175	1	0.075	[-1.516	0.072]
Slovakia	MI = 1	-0.178	0.290	0.376	1	0.540	[-0.747	0.391]
	MI = 2	0.594	0.292	4.140	1	0.042	[0.022	1.166]
	ECE = 1	-0.370	0.311	1.411	1	0.235	[-0.980	0.240]
	ECE = 2	0.062	0.347	0.032	1	0.858	[-0.618	0.742]

This paper shows the findings of the 5th research model in Table 10. P values for the 2nd cut-off value of LEGE are not significant for Czech, Hungarian, and Slovak samples (Czech; LEGE 2= 0.631; Hungarian; LEGE 2= 0.258; Slovak; LEGE 2= 0.558). Thus, LEGE is not a significant predictor of MI for the Czech, Hungarian, and Slovak samples. On the other hand, the p-value for the 2nd cut-off level of LEGE is 0.037, which is lower than a 5% significance level in the Polish sample. Since the coefficient (estimate) for LEGE is negative (-0.953), a one-unit decrease in LEGE results in 0.953 times higher odds of occurrence for better MI performance for Polish businesses with a 95% CI between -1.898 and -0.059. Thus, Polish firms can have better MI in case of having less optimistic perception of LEGE. In this context, this paper confirms the negative impact of LEGE on MI only in the Polish sample and supports the H5 hypothesis. Although the quality of LEGE in a country positively affects MI, thus the competitiveness of businesses, ineffective rules regarding the enforcement of property rights in some countries might reduce MI, thus affecting the competitiveness of firms. This factor might explain the negative impact observed in the Polish sample, and it will be discussed in detail in the following section.

Tab. 10- The results regarding 5th research model. Source: own research.

Country	Variable	Estimate	S.E.	Wald	df	P value	95% CI [Lower Upper]	
Czechia	MI = 1	-0.262	0.182	2.081	1	0.149	[-0.618	0.094]
	MI = 2	0.689	0.184	14.089	1	0.000	[0.329	1.049]
	LEGE = 1	-0.257	0.210	1.497	1	0.221	[-0.667	0.154]
	LEGE = 2	0.138	0.220	0.392	1	0.531	[-0.293	0.568]
Hungary	MI = 1	-0.444	0.536	0.684	1	0.408	[-1.495	0.608]
	MI = 2	0.496	0.537	0.852	1	0.356	[-0.557	1.549]
	LEGE = 1	-0.698	0.576	1.466	1	0.226	[-1.827	0.432]
	LEGE = 2	-0.804	0.711	1.278	1	0.258	[-2.198	0.590]
Poland	MI = 1	0.258	0.406	0.405	1	0.525	[-0.537	1.053]
	MI = 2	1.045	0.412	6.438	1	0.011	[0.238	1.851]
	LEGE = 1	-0.570	0.420	1.840	1	0.175	[-1.394	0.254]

	LEGE = 2	-0.953	0.457	4.348	1	0.037	[-1.848	-0.057]
Slovakia	MI = 1	-0.041	0.323	0.016	1	0.899	[-0.675	0.592]
	MI = 2	0.730	0.326	5.026	1	0.025	[0.092	1.368]
	LEGE = 1	-0.192	0.341	0.319	1	0.572	[-0.860	0.475]
	LEGE = 2	0.223	0.381	0.343	1	0.558	[-0.524	0.970]

4.2. Discussion

The result of this paper regarding the impact of INO on MI confirms country-level differences. While INO has a negative effect on MI for Slovak businesses, a significant impact of INO on MI does not exist for Czech, Hungarian, and Polish enterprises. In this regard, this finding of this study is compatible with the results of Jaakkola et al. (2010), Bernhofer and Han (2014), Dobni et al. (2015), Jagodič and Milfelner (2022), Wilson et al. (2023), and Civelek et al. (2024), which substantiate international differences in INO and MI activities of businesses from different countries including Austria, Finland, Germany, Canada, India, the United Kingdom, the United States, Germany, Japan, China, Czechia, Slovakia, Hungary, Slovenia, and Serbia. The reasons for the negative impact of INO on MI in the Slovak sample can also be explained by the cultural characteristics of this nation. According to the website of The Culture Factor (2024), which indicates country-level differences in Hofstede dimensions, Slovakia has higher scores from the power distance dimension than other analyzed countries. Countries with low power distance scores have greater INO performance than those with high scores in this dimension (Engelen et al., 2014). Although the INO of Slovak businesses might be low, their long-term oriented nature can make them achieve better results from MI outcomes. This is because in countries with a greater long-term orientation, people make long-term plans that adapt their traditions to changing situations. Moreover, they are more patient to make investments and more ambitious to achieve better results (The Culture Factor, 2024). In this regard, Slovakia's score on the long-term orientation dimension is greater than that of Czechia, Hungary, and Poland. Hence, even though Slovak businesses might have lower INO activities, their perseverant attitude might motivate them to achieve greater results for MI.

Concerning the effect of FAFIC on MI, this paper also finds international differences. While the impact of FAFIC on MI is negative for Polish businesses, FAFIC does not significantly affect the MI activities of Czech, Hungarian, and Slovak enterprises. This result aligns with the findings of Edelman et al. (2016) and Bedendo et al. (2020), which also verify country-level differences in the role of family finance on innovation activities by investigating firms from various countries, including those in Europe, South America, and South Africa. The reason why FAFIC negatively affects MI activities in the Polish sample might be related to Polish firms' interest in using external financing sources. According to Lin et al. (2024), countries with greater GDP volumes are more likely to have access to external finance. As presented in Table 1, the GDP value of Poland is higher than that of other countries. Since Polish firms tend to rely more on external sources, they can utilize these sources for MI, and the capital received from family members might have been used for other purposes. Moreover, the support that they receive from their families might be limited to making effective investments for the MI. Thus, FAFIC might negatively affect MI, as this research confirms.

Moreover, this study vindicates international differences in the impact of POLE on MI. A significant negative impact of POLE on MI is only in existence in the Polish sample, while POLE's effect on MI is not significant for Czech, Hungarian, and Slovak firms. This country-level difference that this paper finds is similar to the arguments of the studies of Carpio et al. (2020) and Mountford and Geiger (2024) since those researchers prove the differences in

various governments' approaches to MI activities by observing firms from France, Costa Rica, Ireland, and the United States. Moreover, this paper clarifies the fact that Polish firms that have a negative perception about the state's support are more likely to perform greater MI activities. The reason for the negative perception of Polish executives regarding the government's approach might be related to the ratio of ICT investment to GDP. This is because countries having greater volumes from this indicator can provide greater financial support for their businesses to take MI actions (Medhioub & Boujelbene, 2025). However, compared to some of the other OECD member countries, the value of Poland's ICT investment to GDP ratio is the lowest (0.99%), while the average volume is 2.96% (OECD, 2022). This fact might be a strong argument for the negative perception of Polish firms regarding the support policy of the government. On the other hand, since the usage of technology-enabled marketing communication tools (website, social media platforms etc) is less costly than the usage of traditional marketing tools such as advertisements via TV, newspapers, and billboards (Devkota et al., 2023) even the state does not provide enough support for Polish firms, they can effectively implement MI strategies. This fact might be another argument why Polish enterprises that have a negative perception regarding state support indicate better MI performance than other businesses.

Furthermore, cross-country level differences in the impact of LEGE on MI have been supported by this paper. While LEGE does not have an impact on the MI of Czech, Hungarian, and Slovak firms, it negatively influences the MI of Polish enterprises. This result aligns with the findings of Mountford and Geiger (2024), indicating similar international differences in the perception and effect of legislative environments on MI operations in some European countries and the US. The enforcement of property rights might be the reason for this negative impact in the Polish sample. By analyzing some European countries, Miocevic et al. (2022) vindicate that innovation activities of businesses increase when the enforcement of intellectual property rights is weaker. This is because firms benefit from low costs since they do not fulfill tax requirements (Miocevic et al., 2022). As depicted in Table 2, the value of Poland from the Protection of IPR dimension is the lowest (International Property Rights Index, 2022). Thus, even Polish firms have a negative perception regarding LEGE, lower enforcement of IPR in this country might have led Polish enterprises to have informal networks that stimulate their success in MI operations.

On the other hand, unlike other researchers (e.g., Medhioub & Boujelbene, 2025) who corroborate international differences in the impact of ECE of countries on MI, this paper does not find country-level differences in this impact. Similar results have been expressed by some researchers who analyze some Visegrad countries, including Czechia, Slovakia, Hungary, and Poland (Ključnikov et al., 2021). Ključnikov et al. (2021) do not prove cross-country differences in the usage of a marketing communication tool by providing similarities in the economic conditions of the analyzed countries as a reason for their results. The similarities in the economic environments of Visegrad countries have also been emphasized by Oláh et al. (2019).

As noted, entrepreneurs and firms can have negative perceptions regarding governments' support and ECE and LEGE that affect their innovative posture, and thus their competitiveness. To reduce the concern of these individuals and businesses, the establishment of a strong institutional innovation framework is a prerequisite. When establishing such a framework, policy-makers must consider the cultural values, norms, and beliefs of their citizens. Since globalization has created an international environment, especially in metropolitan cities,

governments' awareness regarding various cultures might also help them to improve their institutional framework regarding the MI. Moreover, since innovation and creativity might be protected and stimulated with the existence and enforcement of effective IPRs, governments need to generate deterrent rules to limit the imitation activities of informal businesses that can break the competitive power of formal firms. In the absence of harmony between the legislative environment and law enforcement, imitators can capitalize on the legal environment's weakness, and formal firms become reluctant to invest in MI.

Furthermore, business-friendly regulations that reduce the liability of foreignness for foreign companies increase their interest in performing FDI. By having such an opportunity, foreign firms not only make innovative investments for marketing purposes but also bring new technologies that local firms can benefit. Local businesses can also partner with foreign innovative companies, increasing their awareness of new technologies. For this reason, the competitiveness of local businesses might increase. Governments also need to create more budgets for the use of ICT by businesses. By doing so, firms can become adapted to the usage of these technologies for their marketing operations, which makes them more competitive.

5 CONCLUSION

MI activities play a substantial role in firms' financial performance, competitiveness, innovativeness, and long-term existence. However, depending on firms' own resources and capabilities, explained by RBV and institutional-level factors included in institutional theory, the MI performance of businesses operating in different countries might differ. For this reason, this paper investigates whether there are any country-specific differences in the impact of INO, FAFIC, POLE, ECE, and LEGE on the MI of businesses.

We collected data from 1,367 Czech, Hungarian, Polish, and Slovak firms using an internet-mediated questionnaire. We also performed data analyses by applying ordinal logistic regression tests. According to the results, country-level differences exist in the impacts of INO and FAFIC on MI. While cultural factors such as power distance and long-term orientation might be the reason for country-level differences regarding INO, GDP volumes might explain country-specific differences in the impact of FAFIC on MI.

Furthermore, this paper verifies country-level differences in the effects of POLE and LEGE on MI. While the ICT investment of countries might be the reason for differences regarding the impact of POLE, the protection of IPR can be a strong argument for the differences in the effect of LEGE on MI. Moreover, this paper does not vindicate any significant country-level differences in the impact of ECE on MI. The similarities in economic conditions of the analyzed countries might explain this result. The establishment of a strong institutional innovation framework that has strong IPRs protection, business-friendly regulations, and greater ICT support can reduce MI barriers and motivate firms to be more competitive. In this regard, policymakers can benefit from this paper as it outlines a robust institutional innovation framework addressing solutions for ECE, POLE, and LEGE.

Since this paper finds country-level differences in the impact of RBV-related and institutional theory-related factors on MI, it emphasizes the importance of various internal and external environmental factors for businesses' MI activities. In this context, businesses can gain a broader perspective on the factors shaping their MI and the practical suggestions of this paper to overcome MI obstacles. This paper also includes both a tangible (financial, FAFIC) and an intangible resource (innovation, INO) of enterprises, explained in RBV. Cultural dimensions

such as individualism, uncertainty avoidance, power distance, and long-term orientation have also been analyzed in this study to indicate country-level differences regarding RBV-related factors. For this reason, this paper analyzes MI from a wide scope, including formal (institutional theory-related) and informal factors such as cultural differences. This broader theoretical scope might attract academic interest, as this research can serve as a reference for studies focusing on the tangible and intangible resources of the RBV, and the formal and informal institutional factors based on institutional theory.

On the other hand, this study has some limitations. All variables in this study are measured by considering the perceptions of firms' executives. Thus, there is no hard data such as the amount or volume that companies invest in MI, or INO activities, such as R&D expenses. In this regard, further studies can ask about the amount of capital invested in companies' MI, INO, and R&D activities to overcome this limitation. Moreover, this paper analyzes firms' MI activities and their influencing factors solely within the neighboring Visegrad countries. Hence, further studies can examine and compare firms from various countries from different continents that have greater cultural, economic, political, and legal differences. This study also investigates international differences only in the impact of an internal financial source, namely, FAFIC, on MI. New studies can also examine country-level differences in the impacts of firms' external financing sources, such as bank finance, on MI.

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Contact information

Mgr. Mehmet Civelek, Ph.D.
Pan-European University
European Centre for Business Research
Czechia
E-mail: m_civelek@windowslive.com
ORCID: orcid.org/0000-0002-1247-5308

PhDr. Lukáš Durda, PhD.
Pan-European University
Faculty of Entrepreneurship and Law
Czechia
E-mail: lukas.durda@peuni.cz
ORCID: orcid.org/0000-0001-5979-9855

Ing. Roman Hlawiczka, Ph.D.
Pan-European University
Faculty of Entrepreneurship and Law
Silesian University in Opava
School of Business Administration in Karvina
Czechia
E-mail: roman.hlawiczka@peuni.cz
ORCID: orcid.org/0000-0002-6429-2095

prof. PhDr. Ľudovít Hajduk, PhD.
Pan-European University
Faculty of Media
Slovakia

E-mail: ludovit.hajduk@paneurouni.com
ORCID: orcid.org/0000-0003-1786-4166

Ing. Roman Hruška, LL.M., MBA
Pan-European University
Faculty of Economics and Entrepreneurship
Slovakia
E-mail: roman.hruska@paneurouni.com
ORCID: orcid.org/0009-0001-9712-512X