

## EXAMINING MODERATING EFFECT OF ENVIRONMENTAL DYNAMISM AND HOSTILITY ON ENTREPRENEURIAL ORIENTATION/PERFORMANCE RELATIONSHIP

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**Abstract:** Although the positive impact of entrepreneurial orientation (EO) on business performance is often indicated, environmental conditions may moderate this relationship. The novelty of this study is visible in the consideration of external environmental factors (in particular, environmental dynamism [ED] and hostility [EH]) as determinants of enterprise performance in the rapidly changing economic situation. The main aims of the research are to identify and analyze the moderating effect of ED and EH on the EO/performance relationship. To achieve this aim, the survey was realized in 2023 on a research sample of 145 enterprises. The research focused on small companies from the printing industry that operated in Poland. The research confirmed the impacts of two of the three dimensions of EO (proactiveness and innovation) on organizational performance and the partial moderating effects of ED (positive) and EH (negative) on the EO/performance relationship.

**Keywords:** entrepreneurial orientation, environmental dynamism, environmental hostility, structural equation modeling

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### Introduction

Many companies strive to increase their performance and focus on its enhancing elements. How well a company is doing can be used to gauge its performance and profitability. Due to this, many academics are interested in performance appraisals and the factors that affect them – especially in tumultuous, fast-changing environments and during socioeconomic instability that was caused by the COVID-19 pandemic (Al-Momani et al., 2023).

Entrepreneurial orientation (EO) is a popular research area from the perspective of organizational development and success. Despite much outstanding research work in this area, it still includes unexplored elements that are research domains for scientists globally. Similarly, there is evidence that EO typically correlates favorably with performance; the link is more complicated, and it is unclear exactly how EO affects performance (Aloulou, 2023).

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According to the logic of efficiency, some academics believe that entrepreneurship is the process of developing an enterprise's inputs as well as its outputs and that, subject to the influence of rational efficiency mechanisms, the implementation of an entrepreneurial orientation typically results in increased efficiency or the resolution of a significant social problem (Zhang et al., 2023). However, there are many antecedents and specific conditions of the impact of EO on the functioning of an enterprise, its performance, and its success. Hence, research on EO is often conducted in specific groups of enterprises or under different environmental conditions, which allows for the capture of particular relationships.

The motivation for undertaking such research was the desire to take environmental factors into account due to the currently varying dynamics of the socio-economic environment in research on the impact of EO on business performance. Previous research rarely analyzed the simultaneous role of environmental dynamism and hostility in the EO/performance relationship. Therefore, this paper's contribution points out the moderating role of environmental factors in studying the mechanisms that show how EO translates into performance, recognizing that current knowledge about the simultaneous impacts of these two constructs on the EO/performance relationship remain insufficiently researched in the Polish context. Hence, the main aims of the research are to identify and analyze the moderating effect of ED and EH on the EO/performance relationship.

## Literature Review and Hypothesis Development

### *Entrepreneurial Orientation*

One of the most promising areas of entrepreneurship study (and a key concept in strategic management) is entrepreneurial orientation. According to Elidjen et al. (2022), EO is the characteristic of an organization that aids in its ability to sustain entrepreneurial behavior patterns of new entries, where new entries can be connected to new goods, services, technologies, markets, or business models.

Enterprises nowadays must function in an environment that is constantly undergoing rapid change. So, it is crucial to always look for new opportunities. Entrepreneurially oriented organizations can find and take advantage of market possibilities (Ferreira et al., 2015).

Covin and Slevin (1989) established a three-dimensional concept of entrepreneurial orientation (EO) in the scientific literature. However, EO was viewed as a unified initiative, creativity, and risk-taking construct. This indicated that organizations should only be referred to as entrepreneurial if they perform highly in all dimensions of entrepreneurial orientation. Lumpkin and Dess (1996) developed a theory that proposed treating EO as a multidimensional construct that consisted of interrelated activities and processes within the EO dimensions but occurred with varying intensities. As the first EO dimension, proactiveness is defined as a firm's propensity to aggressively and proactively compete with its rivals (Löfsten and Lindelöf, 2005). Proactive behavior is characteristic of those organizations that are pioneers in markets. Pioneering organizations try to respond quickly to emerging opportunities

in order to stay ahead of the competition whenever possible. Proactive companies regularly explore market possibilities, respond to shifting consumer expectations, and take steps to outpace their competition by foreseeing future demand (Kraus et al., 2023).

Innovativeness entails that an organization looks for original or uncommon solutions to problems and needs; this means introducing innovative products and creative processes and putting experimentally developed products, processes, or organizational innovations into practice (Kraus et al., 2023).

The willingness of management to invest considerable resources in prospects in the face of uncertainty is referred to as the risk-taking dimension. According to the literature on entrepreneurship, taking risks includes taking significant steps into the unknown, taking on debt, and/or investing a considerable amount of one's resources in initiatives in unknown environments (Rauch et al., 2009). At the corporate level, taking risks refers to a company's propensity to fund risky initiatives, such as entering unexplored new markets and investing significant resources in ventures with uncertain outcomes.

#### ***Environmental Dynamism***

In those studies that have linked market conditions and EO, the four dimensions of the external environment are mentioned (as proposed by Dess and Beard, 1984): capacity, dynamism, hostility, and complexity. The existing research most often considers environmental dynamism (ED) and hostility (EH).

The volatility and unpredictability of a firm's external environment are referred to as ED (Schilke, 2014). The concept can be described as the speed and intensity of change in the external business environment that is driven by variables, including the expansions of businesses and their sizes, the speed of technical changes, and the diffusion of such changes inside an industry (Simerly and Li, 2000). Thus, ED makes the business landscape unclear, which poses hazards to a company's performance and operations (Oh and Kim, 2021). While highly dynamic sectors are characterized by a high pace of change and instability that raise decision uncertainty, stable settings are characterized by small changes in customer preferences, technology, and competitive dynamics. High uncertainty forces an organization to react to unplanned change more quickly in order to survive; this makes decision-making much more difficult.

In-depth research has been done on how the external environment affects creativity and performance. According to Jansen et al. (2006), ED is the degree to which the external environment is defined by changes in technology, modifications in consumer preferences, and fluctuations in product demand or material availability. This describes the rates of change and levels of environmental instability. Existing products and methods are readily rendered outdated in a dynamic environment with frequent and rapid changes that are brought on by technology, customers, and suppliers. As a result, a dynamic environment motivates people to develop new goods and processes or improve existing ones (Chan et al., 2016).

***Environmental Hostility***

The degree to which the business environment can support an organization's sustainable development is referred to as hostility – a critical component of the company's operational environment. Intense business competition, the lack of prospects for long-term and quick growth, and the lack of crucial organizational resources all contribute to EH. Companies must switch their emphases to survival strategies that are focused on short-term perspectives, since a hostile environment causes challenging and demanding conditions for managers (Garca-Sánchez et al., 2021).

According to Lindelöf and Löfsten (2006), market opportunities are challenging to take advantage of and scarce resources are hard to obtain due to severe rivalry. Due to shortages of relevant information and resources in a very hostile environment, there is intense competition to obtain the information and resources that are needed for innovative activities (Liao and Long, 2019).

In addition to perceived competitive, market, and product uncertainties, EH refers to those unfavorable external influences that affect a company's business due to extreme changes in its industry, substantial regulatory burdens placed on its sector, or intense competition among its competitors. Internationally, EH may arise from changing demand conditions and radical innovations that render a company's core technology obsolete (Zahra and Garvis, 2000).

***Hypothesis Development***

The strategic position that affects a firm's performance can be considered EO. Implementing EO is a crucial strategy for overcoming crises, since it gives the organization a competitive advantage and sustainable growth (Al-Momani et al., 2023). Most studies have found a strong connection between EO and business performance (Huang et al., 2023); however, there are some contradictory studies in the literature – some researchers have disputed the positive correlation between EO and firm performance and asserted that the relationship between EO and firm performance is weak (Masa'deh et al., 2018), while other studies have revealed a negative correlation (or no correlation at all) (Kajalo and Lindblom, 2015; Rincon et al., 2022). According to earlier research, the association between EO and business performance varies depending on a sector's characteristics and the measuring strategy that is being used (Arshad et al., 2014). This demonstrates that the findings are ambiguous, which explains why it is necessary to re-examine the impact of EO on the performance of enterprises.

Entrepreneurial businesses proactively create fresh and inventive goods and services, exceeding competitors creatively and bringing in more significant revenue than the industry average. However, more risk-averse companies appear to be more willing to make minor incremental adjustments while emphasizing immediate profit. Low EO enterprises are more likely to copy other companies' products and services than make significant breakthroughs themselves; therefore, they are more likely to be market followers than market leaders (Tajeddini et al., 2020).

Earlier studies have offered helpful information on how different EO dimension configurations can enhance business performance; however, it has been underlined that innovation, risk-taking, and proactiveness are more likely to affect business performance together than they are separately from one another. The research has demonstrated several combinations, such as the connection between innovation and proactiveness/corporate performance (Lomberg et al., 2016). The influence of taking risks on a business's performance depends on its level of innovation according to additional research (Putninös and Sauka, 2020). This leads us to propose the following hypothesis:

H1: Entrepreneurial orientation [(a) risk-taking, (b) innovativeness, (c) proactiveness] impacts firm performance.

Employees must take action to address external issues and be more receptive to the actions of leaders in a highly dynamic environment since it is unexpected. Entrepreneurial leaders can encourage organizational members to see a highly dynamic environment as a source of prospects by fostering commitment and strong motivation (Huang et al., 2014). A company's performance depends on its capacity to adapt to ED through its capacity to learn; however, corporate knowledge quickly becomes outdated in a dynamic market setting, thus necessitating constant learning (Kyrdoda et al., 2023).

According to earlier studies (Dubey et al., 2020), ED has a linear impact on the connection between EO and the operational performance of businesses. Al-Momani et al. (2023) cited studies that demonstrated a negative link between EO and firm performance in a volatile and unpredictable economic environment.

The effect of ED on the link between EO and performance is also discernible in each of EO's dimensions. For instance, innovation-driven businesses can increase their profitability in a highly dynamic environment (Chan et al., 2016). While businesses that are operating under stable conditions can use their existing abilities to preserve a competitive advantage, businesses that are operating in highly dynamic environments must constantly innovate and adapt in order to survive.

In terms of proactiveness, Lin (2021) concentrated on team-level proactive activities and supported the moderating function of ED in the relationship between leadership and team initiative, thus discovering that proactive initiatives are more likely to occur in highly dynamic contexts.

According to the risk-taking dimension, a dynamic environment raises uncertainty and market risk; these could result in organizational inertia, thus driving ineffective decision-making. It was underlined that ED may help or hinder risk reduction depending on a firm's capabilities. In contrast to companies with lower capabilities, those with more substantial market capabilities are better able to take advantage of new opportunities in a turbulent market (Kyrdoda et al., 2023). Hence, the following hypothesis has been formulated:

H2: Environmental dynamism moderates the relationship between entrepreneurial orientation [(a) risk-taking, (b) innovativeness, (c) proactiveness] and firm performance.

To a limited extent, the studies includes research on the relationship between EO and business performance in a hostile environment. It is believed that an entrepreneurial strategy orientation helps organizations operate better in hostile environments. In contrast, a more-conservative strategy orientation seems to support company performance in a favorable environment (Löfsten and Lindelöf, 2005).

As an EO dimension, innovations appear to be too hazardous and cannot adequately protect entrepreneurial enterprises in an environment of fierce and hostile competition. Some studies have indicated that, with EH, companies do better by defending existing product market share rather than adopting innovation-oriented strategies (Tang and Hull, 2012).

It is believed that businesses are more proactive in hostile environments; however, experimentation and the difficulties of being proactive increase pressure on a firm to save limited resources in a hostile environment according to Lumpkin and Dess (2001). As a result, performance in a hostile environment may be inversely correlated with proactive activity.

It has yet to be discovered how risk-taking and EH are related. On the one hand, a shortage of resources in a hostile environment would lead businesses to avoid taking unnecessary risks. On the other hand, businesses may be less inclined to take risks in a supportive climate since they can employ more-conservative techniques without worrying about their financial success (Covin and Slevin, 1989). It can therefore be assumed that EH and EO might have a non-linear relationship. The above allows for the following hypothesis:

H3: Environmental hostility moderates the relationship between entrepreneurial orientation [(a) risk-taking, (b) innovativeness, (c) proactiveness] and firm performance.

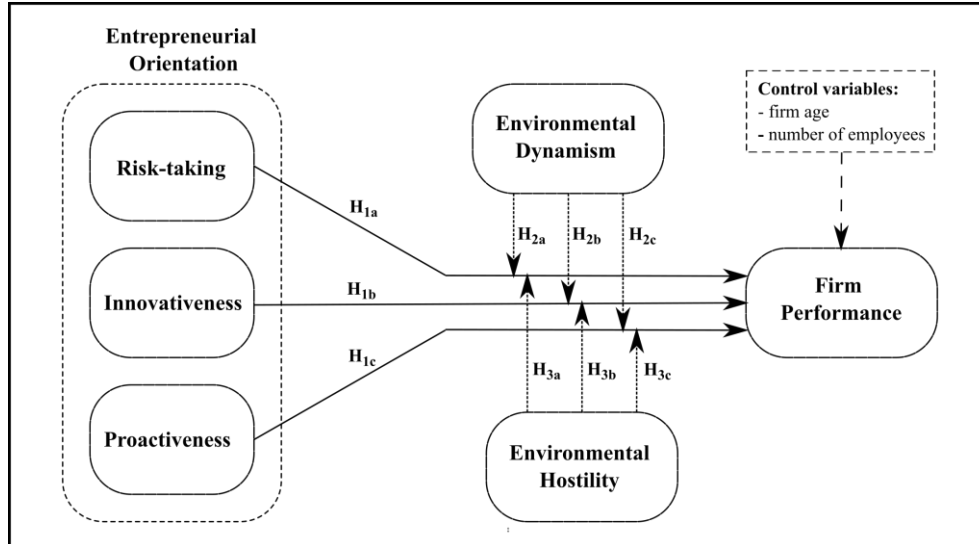


Figure 1: Theoretical model

## Research Methodology

### *Sample and Data-Collection*

The research focused on small companies from the printing industry that operated in Poland. Despite the negative effects that have been caused by the pandemic and the war in Ukraine, the Polish printing industry is developing quite dynamically. According to the latest report, “Printing market and printed packaging in Poland” (“Rynek Poligraficzny i opakowań z nadrukiem w Polsce”), Poland is the largest printing market in Central and Eastern Europe and the fifth-largest in the European Union in terms of revenues and number of employees. Printing companies with 10 to 49 employees that had operated on the market for at least 3 years were selected for the study.

In the Statistics Poland register, there were 541 enterprises that met the established criteria at the beginning of January 2023.

Stratified-random sampling with drawing without replacement was used in the sampling. The data for the study was collected by a specialized research company that submitted survey questionnaires in April and May 2023.

The questionnaire was previously verified in terms of its content and design by three entrepreneurship scientists as well as during interviews with several managers of companies from various sectors of the SME sector. Their comments were taken into account in the final version of the questionnaire.

As a result, 150 completed questionnaires were obtained. After verification, the data from 145 questionnaires was used in further analysis, translating into a 7% sample error with the assumed 95% confidence level. Table 1 presents the structure of the study group.

**Table 1. Characteristics of studied group**

Characteristics	Category	Percentage
No. of employees	10–19	54.5%
	20–29	13.1%
	30–39	9.0%
	40–49	23.4%
Company age	3–10 years	9.0%
	11–20 years	21.4%
	20+ years	69.6%
Location	Rural areas	35.9%
	Towns*	34.5%
	Medium-sized cities**	22.1%
	Large cities***	7.5%

**Note:** \* up to 50,000 inhabitants; \*\* from 50,000 to 500,000 inhabitants; \*\*\* more than 500,000 inhabitants

### *Variables and Statistical Method*

Three independent variables were used in the conducted research (i.e., risk-taking, innovativeness, and proactiveness), while one dependent variable (i.e., firm

performance in the assessment of the company's results of subjective measures as compared to its direct competitors) and two variables moderated the dynamics and hostility of the environment. These variables were treated as latent reflective variables, and indicators that were measured using the five-point Likert scale were used to measure them, ranging from 1 (Strongly disagree) to 5 (Strongly agree). Following the example of the work of Wójcik-Karpacz et al. (2019), two control variables were additionally used in the research; i.e., the size of the company expressed in the number of employees, and the length of the company's activity in years. Table 2 provides essential information on the variables that were used (the number of indicators, designations, descriptive statistics, source of indicators, or confirmations of the purposes of their use).

**Table 2. Characteristics of variables**

Variable/ construct	Abbreviation	No. of items	Mean	SD	Source and confirmation
Risk-taking	R	4	3.12	0.97	Hughes et al. (2007); Kusa et al. (2021)
Innovativeness	IN	4	3.29	0.86	
Proactiveness	PR	4	3.50	1.00	
Performance	PERF	5	2.93	0.90	Hughes et al. (2007); Covin and Slevin (1989); Kusa et al. (2021)
Environmental dynamism	ED	5	3.10	0.79	Miller and Friesen (1982); Kwiotkowska (2018)
Environmental hostility	EH	3	3.02	0.99	Naman and Slevin (1993); Kwiotkowska (2018)
No. of employees	NE	1	23.08	13.54	Lumpkin et al. (2006); Wales et al. (2013); Wójcik-Karpacz et al. (2018)
Company age	CA	1	25.2	11.26	Wales et al. (2013); Real et al. (2014); Wójcik-Karpacz et al. (2018)

Due to the latent nature of the variables, structural equation modeling was used to verify the theoretical model. Since the study was exploratory and the sample was not very large, it was decided to use the PLS-SEM (partial least squares-structural equation modeling) method (Hair et al., 2022). This approach in structural equation modeling is suitable for analyzing models with moderators (Memon et al., 2019). To verify the hypotheses that was adopted in the theoretical model, a standard 5% significance level was assumed. In addition, the verification of the significance of the path factors was based on the bias-corrected confidence intervals (Ramayah et al., 2018). The research used SmartPLS software Version 4.0.9.5 (Ringle et al., 2022).

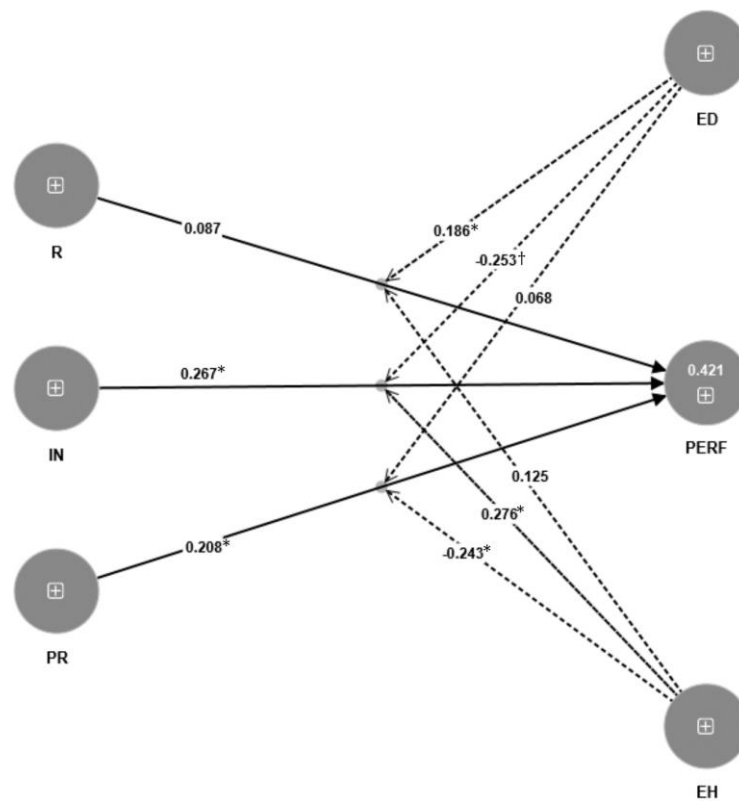


### Findings and Results

Structural equation modeling was carried out in two stages according to the guidelines that were proposed by Hair et al. (2022). In the first part of the analysis, the measurement model was verified; in particular, it was verified whether the expected value for the outer loadings was achieved. Additionally, the reliability and validity of the constructs were checked, and the issue of the collinearity of the indicators was examined. Using the appropriate criteria, an assessment of the discriminant validity of the constructs was conducted, followed by the use of the SRMR measure to examine the model fit to the data. The verification of the measurement model also led to the conclusion that the considered control variables (i.e., NE and CE) did not influence the values of the model coefficients; this was because the inclusion of the control variables in the model did not change the parameters of the models (in particular, the values of the path factors and their significance) when compared to models without control variables. Therefore, we ultimately did not include them in our further analysis (Bernierth and Aguinis, 2016).

Achieving the appropriate parameters of the measurement model was possible after removing one of the indicators for the ED variable. Consequently, hypothesis-testing (the second stage of SEM analysis) was conducted using a model in which the ED variable was composed of four indicators. In contrast, the number of indicators for the remaining constructs remained unchanged (see Table 2).

Figure 2 presents the modeling results for the structural models under examination. The illustrations depict the standardized path coefficient values and the denoted significance levels. Furthermore, they include the coefficient of determination  $R^2$  for the endogenous variable (PERF). Table 3 furnishes more comprehensive findings of the direct and moderation relationships, respectively.



R – Risk-taking, IN – Innovativeness, PR – Proactiveness, ED – Environmental Dynamism, EH – Environmental Hostility, PERF – Firm Performance  
†  $p < 0.10$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

**Figure 2: Structural model**

As seen from Figure 2 and Table 3, two of the three considered hypotheses that were related to direct relationships (i.e.,  $H_{1b}$  and  $H_{1c}$ ) were fully confirmed. For the  $IN \rightarrow PERF$  and  $PR \rightarrow PERF$  relationships, the obtained paths coefficients values ( $\beta_{1b} = 0.267$  and  $\beta_{1c} = 0.208$ ) were statistically significant. This significance was confirmed based on both the test probability (p-value, which was less than 0.05 in both cases) and the bias-corrected confidence interval (the intervals did not contain a value of 0); this indicated that both IN and PR had a positive impact on EO, with the effect of IN on PERF being stronger. On the other hand, the analysis did not reveal a significant effect of R on PERF. No significance was achieved for the  $PR \rightarrow PERF$  relationship path coefficient, whose value was  $\beta_{1a} = 0.087$  ( $p > 0.05$ ). Consequently, this means that the  $H_{1a}$  hypothesis was not confirmed.

**Table 3. Inner Path Model Coefficients and Their Significance**

Type of effect	Hypothesis	Path	Original Value ( $\beta$ )	Bootstrapping						Results
				Sample Mean	Standard deviation	T Statistics	P Values	Confidence interval bias corrected		
								LL (2.50%)	UL (97.50%)	
Direct effect	H <sub>1a</sub>	R → PERF	0.087	0.101	0.079	1.103	0.270	-0.092	0.227	not supported
	H <sub>1b</sub>	IN → PERF	0.267	0.285	0.098	2.716	0.007	0.054	0.447	supported
	H <sub>1c</sub>	PR → PERF	0.208	0.178	0.099	2.096	0.036	0.043	0.439	supported
Moderation effect	H <sub>2a</sub>	ED x R → PERF	0.186	0.154	0.088	2.102	0.036	0.042	0.382	supported
	H <sub>2b</sub>	ED x IN → PERF	-0.253	-0.205	0.132	1.919	0.055	-0.534	-0.033	supported
	H <sub>2c</sub>	ED x PR → PERF	0.068	0.049	0.111	0.615	0.539	-0.148	0.284	not supported
	H <sub>3a</sub>	EH x R → PERF	0.125	0.129	0.088	1.421	0.155	-0.063	0.287	not supported
	H <sub>3b</sub>	EH x IN → PERF	0.276	0.229	0.132	2.097	0.036	0.045	0.535	supported
	H <sub>3c</sub>	EH x PR → PERF	-0.243	-0.228	0.106	2.298	0.022	-0.436	-0.034	supported

The analysis results of the moderation relationships led us to conclude that the moderating role of ED was fully confirmed for the impact of R on PERF. The significance of path coefficient  $\beta_{2a} = 0.186$  meant that ED positively moderated the R → PERF relationship, so the H<sub>2a</sub> hypothesis was confirmed. Consequently, this led to the conclusion that the perceived environment as a dynamic environmental by the surveyed entrepreneurs strengthened the impact of R on PERF. The results of the moderation analysis of the ED role for the IN → PERF path were not so clear-cut. The determined value of the test probability for coefficient  $\beta_{2b} = -0.253$  was 0.055, suggesting its lack of statistical significance (at the assumed threshold of 0.05). However, the bias-corrected confidence interval did not contain 0, confirming the moderation effect's importance.

Following Ramayah et al. (2018), we consequently concluded that ED is an essential moderator of IN's influence on PERF. Due to the sign of the  $\beta_{2b}$  coefficient, however, this moderation was negative (i.e., ED weakens the influence of IN on PERF). At the same time, this meant that the H<sub>2b</sub> hypothesis was confirmed. The research showed that ED was not a moderator of PR's impact on PERF. This conclusion results from the fact that path coefficient  $\beta_{2c} = 0.068$  was not statistically significant, which was verified by two methods; thus, the H<sub>2c</sub> hypothesis was not confirmed.

On the other hand, the moderating role of EH was confirmed in two of the three analyzed cases. A positive and significant moderation effect of the environmental hostility variable was obtained for the IN → PERF relationship ( $\beta_{3b} = 0.276$ ;  $p$ -value = 0.036). This means that EH significantly strengthens the impact of innovation on a company's bottom line, therefore confirming the  $H_{3b}$  hypothesis. Significance was also obtained for the path coefficient of the effect of PR on PERF with EH as moderator variable. However, we are dealing with a situation in this case in which the moderating variable attenuated the considered strength of the PR effect on PERF since  $\beta_{3c} = -0.243$  was negative. Due to the statistical significance of this coefficient, it can be concluded that the  $H_{3c}$  hypothesis was confirmed. In studies on the moderating role of EH, the  $H_{3b}$  hypothesis was not confirmed. As a result of the analysis, the path coefficient for moderative effect  $\beta_{3c} = 0.125$  was not statistically significant ( $p$ -value = 0.155).

The level of explaining the variation for endogenous variable PERF by the three exogenous variables (R, IN, PR) with the participation of two moderating variables (ED and EH) was  $R^2 = 42.1\%$ ; this reflects its average explanation by the proposed model.

## Discussion

EO is acknowledged to be a strategic concept that focuses more on how a firm operates rather than what it does. EO combines a business mindset with proactive and innovative entrepreneurial activities in order to seize opportunities with uncertain outcomes (Kraus et al., 2023).

Even though there is a majority of convincing evidence that links EO to improved business performance, several academicians have noted that this linkage is far from monotonic and universal (Ferrerias-Méndez et al., 2021). It is emphasized that most empirical studies have confirmed the positive and strong relationship between EO and performance (Huang et al., 2023); however, this is not obligatory and may vary in certain cases of industries and types of enterprises (Arshad et al., 2014). Hence, the current research has confirmed only the partial impact of the individual dimensions of EO on business performance, indicating the risk-taking dimension as requiring an in-depth analysis from the industry point of view.

It has been emphasized that a rapidly changing and hostile business environment dramatically requires an entrepreneurial approach to launching a successful business (Choi et al., 2020). The unpredictability of the constantly changing environment and its hostility as related to the increasing competition and globalization processes requires strong motivation and managerial commitment (Huang et al., 2014) in order to effectively benefit from implementing organizational improvements (e.g., based on EO), thus treating environmental challenges in terms of opportunities and not merely threats.

A company's performance is related to its ability to adapt to a changing environment. Constant learning and adaptation allow one to achieve benefits from entrepreneurial activities (Kyrdoda et al., 2023). However, this has not been universal for all of the

studies that have been conducted; despite the assumption that effective proactive initiatives are more likely to occur in very dynamic contexts (Lin, 2021), the current research has not confirmed such an assumption.

When it comes to the impact of a hostile environment on the EO/performance relationship, many researchers tend to point out that this has a negative indirect impact (Al-Momani et al., 2023; Löfsten and Lindelöf, 2005). The most controversial dimension of EO that has been identified in the previous research is risk-taking in order to generate business performance, for which the impact of a hostile environment is not clearly defined (Tang and Hull, 2012). Also, the current research has not confirmed the indirect effect of a hostile environment on the relationship between risk-taking and performance.

### Conclusion

In many studies on the EO/performance relationship, hypotheses regarding their positive relationship have been rejected or partially verified; this is a result of the specificity of industries, the characteristics of enterprises, environmental conditions, and mediating and moderating factors. The specificity of the EO/performance relationship is also visible in the current research that has been conducted in the printing industry of Poland, where EH and ED seem to have a moderating influence on this relationship. The importance of the external environment has been underlined in previous studies (in particular, the effect of ED [Al-Momani et al., 2023] and EH [Löfsten and Lindelöf, 2005]) in analyzing the relationship between EO dimensions and business performance. Six of the nine hypotheses in the study were confirmed, while some of the influences were not confirmed:  $R \rightarrow \text{PERF}$ ,  $\text{ED} \times \text{PR} \rightarrow \text{PERF}$ , and  $\text{EH} \times \text{R} \rightarrow \text{PERF}$ . These require further in-depth verification research.

The current research is not without its limitations. Due to the number of entities that were surveyed, the research group cannot be treated as being fully representative. Moreover, the study was limited to small enterprises, which may have resulted in specific differences concerning the entire industry. Hence, future research could expand the research group to include entities of different sizes using stratified random sampling.

This research also has implications for management practitioners, who should consider EO to be a strategic aspect of enterprise functioning (but not in an obligatory way) after previous research on the specificity of the activity. For example, entrepreneurs in the printing industry should pay special attention to organizational risk-taking and adapt (or even create) dedicated management tools. As a recommendation for such practitioners, a constant analysis of the environment in terms of its dynamism and hostility is also suggested. The turbulent environment of recent years has increasingly determined how businesses are run, thus influencing the modifications of frequently researched and well-established organizational dependencies such as EO/performance.

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#### APPENDIX 1. Construct items

Construct	Item
Firm Performance (PERF)	Relative to our competitors, we achieve better results.
	Relative to competing products, our products are more successful in terms of sales.
	Relative to competing products, our products are more successful in terms of achieving and establishing market share.
	Our sales revenues are higher than those of our direct competitors.
	Our profits are higher than those of our direct competitors.
Risk-taking (R)	We can accept a high level of risk if it offers a chance for above-average profits.
	The term 'risk taker' is considered a positive attribute for the people in our organization.
	Relative to our competitors, we are more courageous in pursuing high-risk opportunities.
	We can radically change our previous plans if it could offer a chance for above-average profit.
Innovativeness (IN)	Our organization seeks out new ways to do things.
	We actively introduce improvements and innovations in our organization.
	Innovation is the source of our success.
	Relative to competing products, our products are more innovative.
Proactiveness (PR)	We analyze our external environment.

	We strive to identify future trends.
	We initiate actions to which other organizations respond.
	We always try to take the initiative in each situation.
Environmental dynamism (ED)	Changes in our marketing practices are frequent.
	The aging rates of our products/services are very fast.
	Our competitors' behavior is unpredictable.
	The supply of products/services and customer behavior are unpredictable.
Environmental hostility (EH)	The pace of changes in our production/service provision technology is very fast.
	The environment of the enterprise is very risky – one false step can lead to a great failure.
	The market activities of our key competitors have become more hostile.
	The market activities of our main competitors more and more influence the scope of the activities of our company (prices, supplies, services, quality, etc.).

## BADANIE MODERUJĄCEGO WPŁYWU DYNAMIKI I WROGOŚCI OTOCZENIA NA RELACJĘ ORIENTACJA PRZEDSIĘBIORCZA/ WYNIKI ORGANIZACJI

**Streszczenie:** Mimo iż wskazuje się często na pozytywny wpływ orientacji przedsiębiorczej (EO) na wyniki biznesowe, warunki otoczenia mogą moderować tę zależność. Nowatorskość badania jest widoczna w uwzględnieniu zewnętrznych czynników otoczenia (w szczególności dynamiki otoczenia [ED] i wrogości otoczenia [EH]) jako determinant funkcjonowania przedsiębiorstw w szybko zmieniającej się sytuacji gospodarczej. Głównym celem badań jest identyfikacja i analiza moderującego wpływu ED i EH na relację EO/ wyniki organizacji. Aby osiągnąć ten cel, zostało zrealizowane w 2023 roku badanie na próbie badawczej 145 przedsiębiorstw. Badaniami objęto małe firmy z branży poligraficznej, działające w Polsce. Badania potwierdziły wpływ dwóch z trzech wymiarów EO (proaktywności i innowacyjności) na wyniki organizacji oraz częściowy moderujący wpływ ED (pozytywny) i EH (negatywny) na relację EO/ wyniki organizacji.

**Słowa kluczowe:** orientacja przedsiębiorcza, dynamika otoczenia, wrogość otoczenia, modelowanie równań strukturalnych