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RESEARCH ARTICLE OPEN ACCESS

The Role of Transformative Learning in Mediating the Entrepreneurial Orientation-International Performance Relationship: A Three-Country Study

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ABSTRACT

Drawing on the organizational learning theory, the focus of this study is to investigate how transformative learning (TL) mediates the relationship between entrepreneurial orientation (EO) and international performance (IP). We use a quantitative approach based on 261 internationalized small- and medium-sized enterprises located in the US, UK, and UAE. The results support the mediating role of TL and suggest that EO does not directly influence IP, but TL mediates the relationship. Subsequently, EO influences TL, which affects IP. The relationship between EO and IP is arguably the most critical question of entrepreneurial research and has been studied extensively by past scholars. This study proposes that the conflicting results may originate from the presence of a mediating variable that influences this important relationship. The discovery of a full mediation fills the existing literature gaps and provides practical implications for SME managers seeking to enhance their IP through strategic learning initiatives.

1 | Introduction

International small- and medium-sized enterprises (SMEs) play a crucial role in the global economy, contributing to economic growth, job creation, and innovation (Child, Karmowska, et al. 2022). Understanding the factors that influence the internationalization of SMEs and their subsequent performance is of great importance for researchers, policymakers, and practitioners in the fields of entrepreneurship and international business (Brouthers et al. 2015; Younis and Elbanna 2022). Scholars over the years have attempted to answer what arguably is the most crucial research question in the international business field, the identification of the factors affecting SMEs' international performance (IP) (Putniņš and Sauka 2020). IP refers

to the outcomes and achievements of SMEs operating in international markets. In this pursuit, researchers have examined many variables that directly or indirectly impact IP. Following the growth of entrepreneurial research, the entrepreneurial orientation (EO) of a company has been proposed as a critical predictor of IP (Donbesuur et al. 2020).

Despite the promising nature of this line of research, the results remain mixed (Huang et al. 2023), particularly when a mediator variable is introduced (Rauch et al. 2009). The inconclusive results of past EO research stem primarily from a focus on the direct relationship between EO and IP, overlooking the potential role of mediators. This oversight has limited our understanding of the underlying mechanisms through which EO influences

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Transformative learning plays a critical role in linking entrepreneurial orientation to international performance in SMEs across the US, UK, and UAE. This underscores the practical importance of considering mediating variables to fully grasp how these dynamics influence real-world business outcomes.

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Summary

- Transformative learning (TL) acts as a bridge connecting entrepreneurial orientation (EO) and international performance (IP) in small- and medium-sized enterprises (SMEs).
- EO alone does not directly influence IP; rather, its effect is channeled through TL, which enhances the firm's capacity for learning and adapting in global markets.
- The study's results are based on the analysis of 261 internationalized SMEs in the US, UK, and UAE.
- The evidence suggests that SMEs with a strong EO are more likely to cultivate robust TL capabilities, leading directly to enhanced IP.
- By recognizing TL as a mediating factor, SME managers can better prioritize and cultivate learning behaviors to effectively translate EO into superior IP.

IP outcomes. Recently, researchers have suggested addressing these inconsistencies by investigating various mediators within this relationship (e.g., Covin and Wales 2019; Hernández-Perlines et al. 2021).

As Putnīš and Sauka (2020, 714) state, “Despite recognizing the importance of contingencies and contextual factors, a consensus is yet to emerge about which are the key external or internal factors that moderate or mediate the EO-performance relationship.” This problem is particularly relevant for international SMEs, as they navigate complex international markets and face unique challenges related to cross-cultural differences, resource constraints, and institutional variations.

Understanding the mediating or moderating factors that can provide insights into the complex pathways facilitates entrepreneurial behaviors to be translated into international success (Karami and Tang 2019). Karami et al. (2023) suggest that decision-making logic plays a mediating role in this relationship. Brouthers et al. (2015) introduce the idea of strategic alliances as a moderator, particularly in the context of SMEs. Additionally, most EO–IP studies focus on large companies (Younis and Elbanna 2022), underplaying the unique challenges that internationalizing SMEs face. Therefore, the discovery of factors that may mediate or moderate the EO–IP relationship is extremely important to further advance our understanding of international entrepreneurial firms.

Previous research (Covin and Miller 2014) has proposed that EO's main impact may be in a firm's learning process, and recent studies have suggested the importance of learning as a potential mediator of the EO–IP relationship (Kang et al. 2022). Learning is acknowledged as a firm's core competency and an integral element of its activities (Cope 2005). Berends and Antonacopoulou (2014) further elaborate that EO fosters an environment conducive to learning, which is critical for SMEs operating in dynamic markets. Elbanna et al. (2024) emphasize that the organizational learning viewpoint suggests that knowledge acquisition and transfer can lead to significant advantages in international activities. These insights underscore the

importance of TL as it enables firms to navigate complex market conditions, adapt strategies, and innovate continuously. As a result, drawing on organizational learning theory (Argyris and Schön 1978), this study investigates the role of transformative learning (TL) in influencing this relationship. Organizational learning involves developing, retaining, transforming, and transferring knowledge within a firm (Elbanna et al. 2024). As a subset of organizational learning, TL is considered a form of experiential learning: a firm acquires, assembles, and uses TL to transform its motivation and action toward strategic activities (Cope 2011).

Recent theoretical developments propose that learning serves as a mediating mechanism by fostering adaptability, resilience, and knowledge acquisition among entrepreneurs (Caceres Auqui and Furlan 2023). The integration of TL as a mediating mechanism helps elucidate the process through which EO influences IP, providing a more comprehensive understanding of the underlying dynamics. The choice of TL as a mediator gains further justification from Kang et al. (2022) and Karami et al. (2023), who highlight its potential to explain the learning processes that underpin strategic decision-making in international business. TL's emphasis on cognitive restructuring aligns with the dynamic learning requirements inherent in entrepreneurial ventures operating on a global scale. From a practical standpoint, recognizing TL as a mediating mechanism can have significant implications for SME managers. It highlights the importance of fostering TL behaviors to translate EO into improved IP outcomes effectively. This insight can inform managerial practices, leadership development programs, and strategic decision-making processes, ultimately benefiting the performance and competitiveness of internationalized SMEs.

Therefore, SMEs conducting international business often promote higher levels of learning, but not all firms are equally adept at learning in the international market. This is a major concern because firms possessing such learning capacities are more likely to better understand the evaluation of international opportunities and optimize their international expansion process. The role of TL in mediating the relationship between EO and IP has received limited attention in the literature.

By considering this role, our study seeks to address this existing gap and shed light on the inconsistent findings of previous studies that examined the relationship between EO and IP. The inconsistency of previous research has been attributed to the lack of consideration for mediating factors that might influence this relationship. Our findings suggest that TL plays a pivotal role in bridging this gap. Specifically, we demonstrate that EO alone does not directly lead to improved IP; rather, it is the firm's ability to engage in TL that translates entrepreneurial behaviors into successful international outcomes. By identifying TL as a mediator, our study contributes to reconciling the conflicting results in the literature by providing a more nuanced understanding of how EO influences IP in international SMEs.

To remedy this gap, this study selected the United States (US), United Kingdom (UK), and United Arab Emirates (UAE) as research settings to control for the potential impact that different economic, cultural, and institutional environments may have on the research findings. The UK represents Europe, the

UAE represents the Middle East, and the US represents North America. These countries have diverse economic structures, with a mix of developed and emerging markets, making them ideal for studying international business activities. This geographic dispersion enables the potential generalizability of the findings of the study because it ensures that the results are not limited to one country or region but are present in multiple national and cultural contexts.

2 | Theory and Hypotheses Testing

2.1 | Transformative Learning (TL)

Learning is a cumulative process that develops a firm's knowledge base regarding its external environment (Eisenhardt and Martin 2000). Cyert and March (1963) initiate an organizational learning discussion, viewing it as an adaptive process while the organization accumulates experience. Argyris and Schön (1978) are the first to propose models that facilitate organizational learning, distinguishing between single- and double-loop learning. In single-loop, adaptive, or incremental learning, firms modify their actions according to the difference between the expected and actual outcomes within the firm. Double-loop, or generative learning, involves single learning, whereby organizations question the values, assumptions, and policies that led to the observed actions in the first place; it is observed when organizations review and alter the organizational norms and values of the firm's underlying strategy (Argyris 1977; Petriglieri and Peshkam 2022).

As TL is a type of double-loop learning, it considers entrepreneurship as a transformation process applied to continually created and recreated experiences (Politis 2005). The TL concept was first introduced in Mezirow's (1978) seminal work on perspective transformation and subsequently elaborated into a comprehensive theory of learning, refined in response to empirical research and critiques (e.g., Mezirow 1990, 1991; Mezirow and Taylor 2009). Mezirow (1991) defines TL as a mechanism for changing one's worldview, involving "... an enhanced level of awareness of the context of one's beliefs and feelings [and] ... involves profound changes in self, changes in cognitive, emotional, somatic, and unconscious dimensions" (pp. 161, 177).

Cope (2003, 2005, 2011) follows Argyris and Schön (1978) and Mezirow (1978) and proposes a dynamic learning perspective. TL has a distinct personal dimension and can be influenced by an entrepreneur's self-understanding and entrepreneurial drive (Cope 2003). Entrepreneurship may be perceived as a sequence of actions and events contributing to a firm's acquisition of TL (Morris et al. 2012). Pittaway et al. (2011) assert that TL occurs through mistakes, crises, and faults observed during a firm's critical events. Corner et al. (2017) identify how entrepreneurs can learn through failures and generate TL that can be used in future ventures. It can trigger changes in individuals' motivation (Cope 2005). Notably, it is distinct from learning orientation, which is the organizational activity of creating and using knowledge to enhance competitive advantage (Calantone et al. 2002). Instead, the TL process incorporates the ability to *assimilate* new external knowledge and *combine* it with the existing internal knowledge to increase a firm's ability to identify

the appropriate and new international markets and devise ways to overcome entry barriers (Ferreras-Méndez et al. 2019).

Overall, TL unveils novel insights into its impact on SMEs' international ventures, yet the theoretical interplay between entrepreneurship and TL remains underexplored. While seminal works like Morris et al. (2012) have initiated a dialog, the entrepreneurship literature still lacks a comprehensive understanding of TL. This gap is evident in the limited insights available to enrich the dynamic learning perspective of entrepreneurship, as highlighted by Pugh et al. (2021). Wang (2008) identifies the absence of organizational learning modes as a critical missing element in analyzing the relationship between entrepreneurship and learning. Addressing these gaps, this study aims to provide both theoretical insights and empirical evidence on the role of TL within the context of international SMEs.

2.2 | Hypotheses Development

The EO concept is rooted in Mintzberg's seminal work (Mintzberg 1973), which suggests that entrepreneurial firms are characterized by a greater willingness to take risks and a more proactive approach in seeking out new opportunities compared to other firms. Miller (1983) identifies entrepreneurship as a multidimensional concept that encompasses a firm's innovativeness, risk-taking, and proactiveness actions. EO research has increased dramatically in the past decade (Hernández-Perlines et al. 2021; Wales et al. 2020).

EO may be conceived as a firm's strategic orientation and internal capabilities that can boost success in entrepreneurial ventures in a competitive environment (Miller 2011). Brown et al. (2001) consider EO the best-established empirical instrument for assessing a firm's degree of entrepreneurship. Thus, it refers to a firm's proclivity toward new ideas (i.e., proactiveness), innovative thinking (i.e., innovativeness), and risk-taking (i.e., risk attitude) (Covin and Lumpkin 2011; Wales, Parida, et al. 2013). EO is essential in international business and entrepreneurship domains (Wales et al. 2020). SME decision-makers usually develop an international EO based on their personality, education, or experiences in previous jobs (Dahan 2023).

IP refers to the performance of SMEs in a specific foreign market (Brothers et al. 2015). Understanding the factors that drive successful IP is critical, as it enables SMEs to navigate the complexities of global markets and achieve sustainable growth. Previous studies have extensively explored various predictors of IP, including market orientation (Zahoor and Lew 2023), innovation capability (Al-kalouti et al. 2020), strategic alliances (Nielsen and Gudergan 2012), and EO (Covin and Lumpkin 2011; Covin and Miller 2014).

Existing research primarily examines how EO contributes to performance because it is a fit indicator of firm management evaluation (Semrau et al. 2016). While a few studies have reported a negative or no relationship between EO and IP (e.g., Matsuno et al. 2002; Wales, Parida, et al. 2013), this relationship is more complex than it may initially appear. EO dimensions can either contribute to as well as hinder firm performance (Huang et al. 2023). In addition, from a theoretical and empirical standpoint, a plethora of research

reveals that EO is primarily associated with better IP (Covin and Lumpkin 2011; Covin and Miller 2014). This positive relationship is consistently found in the majority of studies that examine the behavior of international SMEs (e.g., Brouters et al. 2015; Donbesuur et al. 2020), and it tends to hold true for different national contexts and cultures (Semrau et al. 2016).

Hence, in alignment with prior EO research on IP, the first hypothesis states (see Figure 1):

Hypothesis 1. *International SMEs with higher EO will have higher IP.*

As learning plays an important role in the development and growth of a firm, it is vital to discover the factors that lead to an increase in a firm's learning capacity. As previously discussed, TL is a specific form of organizational learning that goes beyond the mere accumulation of knowledge. While organizational learning in general is concerned with the processes by which firms acquire, assimilate, and apply knowledge (Sambrook and Roberts 2005), TL is particularly focused on the transformative changes that occur when firms challenge their existing assumptions and embrace new paradigms (Cole and Hagen 2024). The distinction between TL and other forms of organizational learning is critical in the internationalization of SMEs. Traditional organizational learning emphasizes incremental improvements or the refinement of existing processes (Ghahramani et al. 2023). In contrast, TL drives a more radical shift in a firm's approach (Cole and Hagen 2024), enabling it to respond more effectively to the dynamic and often disruptive challenges of international markets. This is especially relevant for SMEs, which may lack the resources to compete on scale alone but can leverage TL to enhance their agility and innovative capacity.

Previous research largely ignores whether EO is an antecedent to TL. In general, EO should positively affect learning mechanisms (Chien and Tsai 2021). Higher levels of EO may expose the firm to constant innovation, enabling it to increase heterogeneity in its knowledge base (Sirén et al. 2017). The direct influence of EO on learning in general, as discussed by Berends and Antonacopoulou (2014), provides SMEs with a competitive edge by enhancing their ability to absorb and apply new knowledge. By developing robust TL capabilities, SMEs are likely to better understand foreign market dynamics, identify and respond to competitor actions, develop effective entry strategies, and enhance their intellectual property. This positions TL not just as a mediating factor but as a strategic capability that amplifies the benefits of EO.

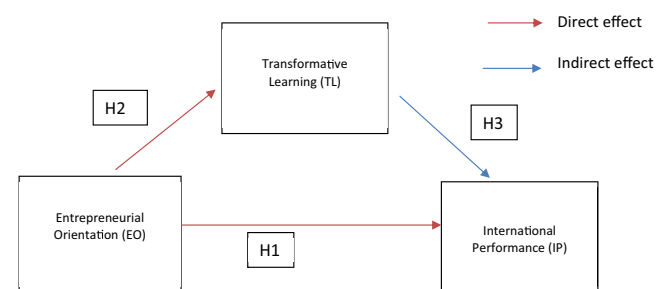


FIGURE 1 | Mediation of transformative learning on the EO-IP relationship for US-UK-UAE companies. [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

An important question is what drives a company to increase its learning activities and reach a point where this newfound learning can transform it. Previous studies have highlighted the positive association between EO and various forms of learning. Lynch and Corbett (2023) suggested that EO promotes experiential learning, as entrepreneurs actively engage in new ventures, encounter challenges, and learn from their successes and failures. Likewise, the accumulated learning of a firm is widely recognized as a critical factor in influencing a firm's international expansion (D'Angelo and Presutti 2019). Some researchers suggest that learning accumulation originates from a firm's EO (Zahra et al. 2000). Kreiser (2011) posits that EO should be positively associated with experimental and acquisitive learning. Similarly, a recent study (Rivas et al. 2020) observes a positive relationship between EO, market, and internally focused learning regarding new product development. These findings suggest that EO is positively associated with learning processes, which sets the foundation for our second hypothesis.

Hypothesis 2. *International SMEs with higher levels of EO will have higher levels of TL.*

Although a firm's EO emerges as one of the main factors that influences a firm's IP, this relationship is not always positive. In order to obtain more accurate and nuanced results, researchers propose including moderating or mediating variables in this relationship (e.g., Karami and Tang 2022). Toward this end, there is a need to explore whether EO influences IP through a mediating variable, which could help provide a more comprehensive understanding of the relationship between EO and IP. For instance, studying 213 UK-based companies, Wang (2008) has discovered that a firm's learning orientation mediates the relationship between EO and IP.

Given that Covin and Miller (2014) suggest that EO can be better understood through its impact on a firm's learning process, it is probable that the impact of EO on a firm's IP is not direct but mediated by TL. Thus, EO may not influence IP directly, but it helps a company to accumulate the knowledge and ability to successfully operate in a foreign market. Then, this TL capability will allow the company to increase its performance. Prior research has established the importance of various learning mechanisms in enhancing organizational performance, particularly in the context of internationalization. For instance, Zahra et al. (2000), Zhao et al. (2011), and Wang (2008) have shown that organizational learning plays a significant role in mediating the effects of EO on firm performance, particularly by fostering innovation and strategic adaptability. However, much of this literature focuses on more general forms of learning, such as absorptive capacity or market orientation, without fully exploring the unique contributions of TL.

TL differs from other types of learning in its emphasis on cognitive and swift shifts that enable firms to question and transform their underlying assumptions and strategies. This process is particularly relevant for SMEs operating in international markets, where the ability to rapidly adapt and innovate is crucial for success. The mediating role of TL is supported by studies highlighting its potential to facilitate strategic decision-making and improve firm performance in complex environments (e.g., Cope 2011; Elbanna et al. 2024; Ferreras-Méndez et al. 2019).

These studies suggest that firms with high EO are more likely to engage in TL, leading to better IP outcomes.

The third hypothesis builds on the understanding that TL is not only a mechanism through which knowledge is acquired and applied but also a critical capability that enables firms to adapt their strategic approaches in response to international environments. Accordingly, the following hypothesis is proposed:

Hypothesis 3. *TL mediates the relationship between EO and IP. International SMEs with higher EO will have higher levels of TL, resulting in higher IP.*

3 | Methodology

3.1 | Research Design, Sample Description and Data Collection

A quantitative study was conducted to test the three hypotheses. The objective of our research is to statistically examine certain relationships, which requires a method that allows for the precise measurement and analysis of variables. Quantitative methods are particularly well-suited for this purpose. By employing a quantitative approach, we can rigorously test the proposed mediating role of TL in the EO–IP relationship.

Answering the methodological call for studying Arab and non-Arab markets together (Elbanna et al. 2020), the study simultaneously observed the SMEs operating in the UAE, UK, and US. This approach allows the researchers to control for the potential cultural and institutional differences that may influence the relationships we are interested in. For instance, the US and UK are both characterized by high individualism and low power distance, which may promote entrepreneurial behaviors that are more autonomous and risk-taking. In contrast, the UAE's collectivist culture, with higher power distance, may shape EO and TL differently, potentially affecting how these constructs influence IP. By incorporating these diverse cultural contexts into our research, we can control the extent to which cultural factors impact the mediating role of TL. Hence, the inclusion of both Arab and non-Arab markets enhances the external validity of our findings, making them more applicable to a broader range of international business contexts.

The following are the criteria for including SMEs in the study: they should be natively owned (not foreign subsidiaries), have 10–250 employees, and be engaged in international sales. The challenge of international data collection is to achieve an equivalent process regarding the setting, instructions provided, and timing (Coviello and Jones 2004). Therefore, we follow Anderson et al. (2019, 6): “The best way to avoid the endogeneity problem is in the research design phase, where data collection should be as close to the experimental ideal (in the lab or the field) as possible.” Data collection equivalence is ensured by (a) using the same questionnaire in English; (b) maintaining the same data protocol for entering data from the three sources; and (c) utilizing “good wording” practices to improve questionnaire comprehensiveness, such as the employment of the active rather than passive voice. The questionnaire is further pre-tested by 12 academics and managers, similar to the survey's target

respondents, to assess its clarity before its launch. The purpose of the pre-test was to evaluate the clarity of the survey items. Participants were asked to complete the survey and provide feedback on any items they found unclear or difficult to answer. Additionally, the researchers tested the reliability and validity of the survey constructs using preliminary data from the pre-test sample. Based on the feedback and statistical analysis, we refined the survey items to ensure that they accurately captured the intended constructs and were free from ambiguities.

Although English is the first language used in the business community in the UAE (Elbanna and Elsharnouby 2018), the researchers recognized the potential for non-native language biases in data collection. To mitigate these biases, several strategies were adopted. First, the researchers ensured that the survey instrument was initially developed in English. Additionally, one of the authors is bilingual (native in Arabic with a PhD from the UK), who reviewed the survey to ensure clarity and cultural relevance. This review process helped the researchers identify and address any potential language ambiguities. Furthermore, a pre-test of the survey was conducted with a small sample of UAE-based SMEs to confirm that the questions were comprehensible and appropriate for the local context. Feedback from this pre-test was used to make necessary adjustments before the full-scale data collection.

We use the *Dun and Bradstreet* databases to identify 5000 UK and US firms. 350 qualifying firms from each country (700 in total) are randomly selected to complete the questionnaire considering costs and statistical robustness. Randomization was achieved through a computer-generated selection process, which helped eliminate any potential selection bias. The potential targets are initially contacted by telephone to verify whether they meet the study's criteria and are asked to enquire with their managers with the greatest knowledge about the firm's international activities to participate in the survey. This avoids potential endogeneity problems (Bönte et al. 2016). In total, 601 firms (86%) were granted verbal permission, and we mailed the survey to the key informants of each firm. Key informants were identified as senior managers or executives within the firms who had comprehensive knowledge of the firm and its international business. After two rounds of phone call reminders, 162 completed questionnaires were received (93 from the UK and 69 from the US), yielding a response rate of 27%.

A different technique, the drop-off and pick-up technique, is used to collect data from the UAE since it is appropriate for the data collection complexities in Arab countries (Elbanna et al. 2020; Zahra 2011) and research practices in the UAE (Elbanna et al. 2013). Despite these differences, we employed statistical techniques to ensure that the data from the three countries were comparable. The questionnaire was collected from firms in the Jebel Ali Free Zone (JAFZA) in Dubai. JAFZA is one of the world's largest and fastest-growing free-trade zones. Established in 1985, it is home to over 10,000 companies as of July 2024, attracting 24% of Dubai's foreign direct investments (<https://jafza.ae/about/>). A sample of 150 private companies was randomly selected from the total population of 10,000 companies that met the above criteria. Focusing on companies with the same traits in the same region reduces endogeneity threats. Among the targeted sample, 99 completed questionnaires were received, resulting in a response rate of 66%.

The three-country sample contains 261 usable observations for data analysis, with an overall response rate of 40%. Our sample size of SMEs is consistent with, and in several cases exceeds, those reported in widely cited studies in international business and entrepreneurship. Reviewing 1296 empirical articles published in six leading international business journals between 1992 and 2003, Yang et al. (2006) found that the median sample size was 180 firms. For instance, Child et al. (2022) conducted a cross-national study on IP based on 180 SMEs. Similarly, Anderson and Eshima (2013) utilized 230 Japanese SMEs, while Vincent et al. (2014) based their analysis on 53 Swedish firms. Similarly, the study by Haq et al. (2025) on microbusiness performance during the COVID-19 crisis analyzed 202 validated responses from an online survey sent to 26,095 microbusinesses in Northern England. These precedents support the validity and analytical rigor of studies with relatively modest sample sizes, especially when studying complex, multi-country SME environments where data access is inherently constrained.

To check whether the sample data represents the population, we follow Anderson et al. (2015) and conduct a mean difference test. The *t*-test results reveal no significant differences in age and size between respondents and non-respondents. Additional statistical methods are employed to determine the equivalence of the samples from the three nations. Following

the technique used by Ryan et al. (2000), three key firm characteristics, namely age, industry, and international experience, are compared for each pair of countries (UAE–UK, UAE–US, and UK–US) using sample equivalence tests based on Cohen's classification of effect sizes. The equivalence tests of the means across these characteristics yield nonsignificant *p*-values ranging from 0.27 to 0.49, suggesting homogeneity across these variables. Hence, sample equivalence is not an issue in this study.

All respondents were asked to complete the questionnaire concerning their international activities in the “best-seller” foreign country, that is, the national market where the firm achieves the highest level of foreign sales, not necessarily the most profitable market. Following He et al. (2013), this market allows us to capture consistent results between firms, access information, and obtain a good response from the sampled firms about their EO, TL, and IP. Table 1 summarizes the study's variables, which are detailed in Sections 3.2–3.4. Appendix A details the items that comprise each of the variables.

3.2 | Dependent Variable

This study captures the perceptual measure of IP using a multi-item scale similar to that used in previous studies (Rauch

TABLE 1 | Variables and measurement scales.

Variable	Indicators
International performance (Cronbach's $\alpha = 0.87$)	– Sales performance in the best-seller overseas national market – Market share compared to direct competitors – Return on investment – Profitability
Entrepreneurial orientation (Cronbach's $\alpha = 0.82$)	– Innovativeness – Risk-taking – Proactiveness
Transformational learning (Cronbach's $\alpha = 0.78$)	– International learning – International motivation
Nationality	– US (1 for US, 0 for others)
Industry	– Food and textile manufacturing (ISIC codes 15–18) – Paper and chemical manufacturing (ISIC codes 20–26) – Electronic and transportation manufacturing (ISIC codes 27–36) – Professional services (ISIC code 74)
International experience	– Years of international operations – Number of countries selling products/services
Firm size	– Total number of employees
Firm age	– Number of years in business
Foreign market institutional environment (Cronbach's $\alpha = 0.68$)	– Safety/riskiness of the foreign country environment – Investment and marketing opportunities in the market – Controllability of the foreign country environment

et al. 2009). The operationalization of IP in this study focuses on the “best-seller” foreign country—the national market where the firm achieves the highest level of foreign sales. This decision was made to ensure consistency and comparability across firms with varying levels of international engagement. It allows us to obtain detailed and reliable data on firms' performance in their most significant foreign market, providing a clear and consistent measure of IP (Brouthers et al. 2015). Managers are asked to rate their firm's performance in the “best-seller” overseas national market compared with their direct competitors over the last three years in terms of sales, market share, return on investment, and profitability. A seven-point Likert scale is adopted for each item, ranging from 1 (lowest) to 7 (highest). These four items are loaded on a single factor (Cronbach's $\alpha = 0.87$). The IP measure is created by taking the average of the four items.

3.3 | Independent and Mediating Variables

The independent variable *EO* is composed of nine seven-point Likert-scale questions developed by Covin and Miller (2014) examining the innovativeness, risk-taking, and proactiveness dimensions. Following prior literature (e.g., Rauch et al. 2009) and a factor analysis that shows the nine items loading on one factor, a unidimensional construct is created for *EO* by taking the average of the nine items (Cronbach's $\alpha = 0.82$).

We measure the mediating variable *TL* using eight seven-point Likert-scale questions based on various studies (Cope 2005; Dimitratos et al. 2012). The *TL* has not been previously measured in the literature. The *TL* items we develop contain five international learning and three international motivation questions, where the learning component is emphasized. Concerning both employees and managers, international motivation questions, taken from Khandwalla (1976) and Stevenson (1983), assess whether employees are motivated by responsibilities or value-adding activities (leading to higher *TL*) and whether managers adopt a tried-and-true (leading to higher *TL*) or a freestyle management philosophy. These three items allow this study to capture a firm's reward philosophy, management structure, and essential firm behavior related to *TL*.

In contrast, the international learning component of *TL* is measured by the extent to which an international firm has formalized processes to continuously collect information from customers about shares, competitors' activities, between departments or functions, and provide a clear direction for the implementation of activities in the foreign country and evaluate their effectiveness (Moorman 1995). The inclusion of these five items captures how a firm collects, assembles, and uses experiential learning. The eight *TL* questions are loaded on a single factor (Cronbach's $\alpha = 0.78$), and the variable is then calculated by taking their simple average.

3.4 | Control Variables

This study further includes several control variables that may influence SME IP (Brouthers et al. 2015). Two dummy variables of nationality, *US* (1 for the US and 0 for others) and *UAE* (1 for the UAE and 0 for others), are created to control home country differences, with the UK being the base variable.

The industry may be an influencing factor on SMEs' IP (Lu and Beamish 2001). Since the sample firms are generally from five sectors, we create four dummy variables to represent the four main 2-digit international standard industrial classifications (ISIC) industries in the sample. Approximately 89% of the sample firms operate in these four ISIC categories. The four codes are 1 for food and textile manufacturing (ISIC codes 15–18), 2 for paper and chemical manufacturing (ISIC codes 20–26), 3 for electronic and transportation manufacturing (ISIC codes 27–36), and 4 for professional services (ISIC code 74). Each of the four industry dummy variables is assigned a value of 1 if the firm is operating in that industry and 0 otherwise.

As firms with greater international experience may be more successful in internationalization (Brouthers et al. 2015), we control for two types of international experience. *International experience* is measured as the years a firm has undergone international operations (Wheeler et al. 2008). Additionally, the *number of countries* is measured as the number of foreign countries in which the firm sells its products/services at the time of the survey (Lu and Beamish 2001).

Finally, we include variables to control for *firm size*, *firm age*, and *the foreign market institutional environment*. Larger and older firms are more likely to have more resources to operate more effectively than smaller firms (Lu and Beamish 2001). *Firm size* is measured as the total number of employees, and *firm age* is the number of years in business. Institutional factors, such as the ease of doing business, may also significantly impact the IP of SMEs (Busenitz et al. 2000). The *target market institutional environment* is captured using three seven-point Likert-scale questions: (1) How safe/risky is the environment in the foreign country? (2) What type of investment and marketing opportunities does this market possess? (3) How controllable is the environment in this foreign country? These three items are loaded on one factor (Cronbach's $\alpha = 0.68$) and are then averaged to create the variable.

3.5 | Common Methods Variance

Following Podsakoff et al. (2003), we adopt four techniques to protect the results from common method biases. First, through the design of the study procedure, different response formats are used to measure variables during the questionnaire design stage. For instance, while we used Likert scales for *EO* and *IP*, direct selection is used for variables such as industry and an open-ended format for questions such as firm size and age. Certain questions are reverse-scaled to eliminate response patterns that could potentially distort data accuracy. Second, Harman's single-factor test investigates the potential common method bias (Podsakoff et al. 2003). The test shows that no single factor of the unrotated solution explained most of the variance, as the biggest factor accounted for 17.32% of the variance. Thus, the common method bias is not an issue in the data.

Third, following Podsakoff et al. (2003), a latent factor is added to capture the common variance among all the observed variables in the measurement model. The path coefficients of the model remain the same after integrating this idle factor, as the

differences between the standardized regression weights from the original model and the standardized weights of the model with the common latent factor are less than 0.200 (model without common method factor: $\chi^2/\text{df}=2.891$, comparative fit index (CFI)=0.91, root mean square error of approximation (RMSEA)=0.07, Tucker–Lewis index (TLI)=0.90; model with common method factor: $\chi^2/\text{df}=2.784$, CFI=0.93, RMSEA=0.06, TLI=0.90).

Fourth, this study adopts the firm's establishment year as a marker variable (Siemsen et al. 2010) for an extended common latent factor analysis, as it should theoretically be unrelated to the study's dependent variable, IP. This method allows truer common variance than the basic common latent factor method because it discovers the common variance between unrelated latent factors. We find that the year of the firm's establishment and IP have a nonsignificant correlation of 0.14 ($p < 0.05$). The fourth test further confirms that common method bias should not be considered in this study.

As the sample is drawn from three countries, to ensure that it is suitable to apply the measures used in this study, a two-group confirmatory factor analysis is conducted to test configural and metric invariance (Hult et al. 2008). To examine measurement invariance, we divide the sample into two groups based on national culture: Anglo-Saxon (the UK and the US) and Islamic (UAE) (Hofstede et al. 1990). We find similar patterns of factor loadings and adequate model fit in the two groups for all the examined constructs. The model fit is assessed through four indices, notably the CFI, non-normed fit index, standardized root mean square residual, and RMSEA (Hu and Bentler 1999). The values of these indices are within the thresholds suggested by Hu and Bentler (1999) and thus indicate a good model fit. The results of this analysis, which suggest configural invariance, are presented in Table 2.

To test for metric invariance, we perform a chi-square difference test between the base (configural invariance) model and the obtained (metric invariance) model. No significant increase is reported between the configural and metric invariance models for all the constructs examined. The results of this examination, which suggest the existence of metric invariance, are summarized in Table 3.

4 | Results

4.1 | Statistical Results

Table 4 displays the mean, standard deviation, and correlation for all the variables. Some significant correlations are observed among the dependent, independent, and control variables, but multicollinearity does not seem to be a concern, as the variance inflation factors are less than 3. The issue of multicollinearity merits further investigation only when the variance inflation factor is above 5 (O'Brien 2007).

4.2 | Results of the Hypotheses Testing

This study follows the procedures outlined in the classic Baron and Kenny (1986) article to test whether TL mediates the EO–IP relationship. This procedure is the most common way to test

TABLE 2 | Confirmatory factor analysis for the UK and US and the UAE.

	χ^2/df	CFI	NNFI	SRMR	RMSEA
<i>EO</i>					
UK and US	8.547	0.933	0.896	0.028	0.044
UAE	3.156	0.930	0.909	0.055	0.037
<i>TL</i>					
UK and US	4.314	0.908	0.952	0.060	0.025
UAE	10.004	0.900	0.917	0.071	0.046
<i>IP</i>					
UK and US	9.823	0.905	0.942	0.074	0.040
UAE	11.210	0.918	0.939	0.080	0.038

TABLE 3 | Comparisons between configural and metric models.

	df	$\Delta\chi^2$	<i>p</i>
EO	8	8.543	0.570
TL	7	6.021	0.648
IP	3	5.297	0.158

mediation and is widely used in business and psychology literature (MacKinnon et al. 2007). This approach recommends that for mediation to exist, three conditions must be present (Baron and Kenny 1986): (1) the independent variable is significantly associated with the dependent variable (direct effect of EO on IP (without TL as a mediator)); (2) the mediating variable is significantly associated with the dependent variable (effect of EO on the mediator (TL)); and (3) and the mediator significantly influences the dependent variable when the independent variable is present (effect of the mediator (TL) on IP, controlling for EO).

A three-step procedure was used to test for mediation (Baron and Kenny 1986). The first step used multiple regression to examine the relationship between the independent variable EO and the dependent variable IP; the second step looked at the association between the independent variable EO and the mediating variable TL; while the third step investigated the relationship between the mediator TL and the dependent variable IP, with the independent variable EO included in the regression.

Table 6 shows the first stage of the analysis and the investigation of the relationship between EO and the dependent variable IP (second equation). The results show that there is a significant relationship between EO and IP. These findings provided initial support for Hypothesis 1, which predicted that EO would influence the IP of an SME. The second stage examined the relationship between the independent variable EO and the moderator

TABLE 4 | Correlation and descriptive statistics.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Mean	0.28	0.38	0.11	0.09	0.54	0.14	17.6	2.27	4.67	2.93	4.07	−0.0017	0.018	4.74
Standard deviation	0.48	0.49	0.32	0.28	0.50	0.35	16.5	0.92	0.73	0.70	1.15	1.06	0.82	1.32
1. US nationality	1													
2. UAE nationality	−0.49***	1												
3. Manufacturer NACIS 31	−0.19***	0.11	1											
4. Manufacturer NACIS 32	−0.02	−0.15**	−0.11	1										
5. Manufacturer NACIS 33	−0.08	0.24***	−0.39***	−0.34***	1									
6. Prof. serv. NACIS 54	0.25***	−0.25***	−0.15**	−0.13	−0.45***	1								
7. Int. exp.	−0.15**	−0.19***	0.21***	0.11	−0.11*	−0.16**	1							
8. Number of countries	0.06	−0.15**	0.08	0.03	0.00	−0.04	0.31***	1						
9. Firm size	−0.04	0.11	0.06	0.03	0.03	−0.09	0.14**	0.23***	1					
10. Firm age	−0.13**	−0.25***	0.13*	0.11	−0.04	−0.15**	0.82***	0.25***	0.19***	1				
11. Target market inst. env.	−0.08	0.42***	0.04	0.003	0.03	−0.09	−0.22***	−0.22***	0.03	−0.21***	1			
12. EO	0.08	−0.01	−11	0.013	0.01	0.10	−0.15**	0.03	−0.08	−0.18***	0.04	1		
13. TL	−0.19***	0.23***	−0.02	−0.11	0.02*	−0.01	0.003	0.13*	0.09	−0.11	0.07	0.46***	1	
14. International performance	−0.28***	0.47***	−0.07	−0.09	0.11	−0.04	−0.01	0.21***	0.06	−0.10	0.16**	0.21***	0.40***	1

Note: *** $p < 0.01$ level (two-tailed); ** $p < 0.05$ level; * $p < 0.10$ level.

TABLE 5 | Regression analysis: determinants of transformative learning.

	Model 1	Model 2	Model 3
Entrepreneurial orientation		0.35* (0.5)	0.34** (0.04)
Control variables			
US nationality	−0.33* (0.15)		−0.36* (0.13)
UAE nationality	0.38* (0.17)		0.29 (0.15)
International experience	0.01 (0.01)		0.01* (0.01)
Number of countries	0.01 (0.01)		0.01 (0.01)
Manufacturer ISIC 1	−0.22 (0.23)		−0.02 (0.20)
Manufacturer ISIC 2	−0.64 (0.25)		−0.23 (0.23)
Manufacturer ISIC 3	0.19 (0.17)		0.15 (0.16)
Professional services ISIC 4	0.25 (0.21)		0.17 (0.19)
Firm size	0.01 (0.01)		0.001* (0.01)
Firm age	−0.01* (0.01)		−0.01* (0.01)
Target market environment	−0.01 (0.01)		0.02 (0.02)
Constant	−0.23 (0.20)	0.02 (0.05)	−0.25 (0.17)
Adjusted R^2	0.148	0.21	0.357
F/significance	4.04**	6.9**	9.9**

Note: * $p < 0.05$; ** $p < 0.01$; unstandardized betas reported; Std. error in parentheses.

TL (Table 5). This regression includes EO and several variables that previous research has shown to influence TL.

The first model shows that the control variables are significantly related to the TL ($p < 0.01$). The adjusted R^2 is 0.148, and it shows three control variables to be significant in predicting TL: two nationality control variables and company age. It appears that US-based companies have a negative impact on TL, while UAE-based companies have a positive impact. It seems that companies based in the emerging market of UAE are more eager to incorporate new TL within their companies, while US-based companies do not feel the pressure to discover new innovative learning. The company age was also negatively related to TL. Younger companies may be more enthusiastic about discovering new ways of doing things. This is a warning for older companies that they need to try harder to incorporate the latest techniques in their operations. The old ways may not be good enough for a company to succeed in a fast-changing global environment. These findings contradict previous research (Lu and Beamish 2001) that showed older companies being more successful in international markets. New technology and quick diffusion of learning may provide younger companies and those based in emerging markets with sufficient capabilities to outperform more established firms based in developed markets.

The second model uses only EO as a predictor of TL. This regression is also significant ($p < 0.01$) with an adjusted R^2 of 0.210. The third model includes all control variables and EO as predictors of the dependent variable. This regression is significant ($p < 0.01$) with an adjusted R^2 of 0.357. Considering that the only difference between the third and the first model is the inclusion of EO, this model shows the significance of EO, which caused a substantial

increase in the adjusted R^2 of 0.209. The results of this regression demonstrate that EO significantly predicts a firm's TL ($p < 0.01$). As a result, the second requirement of a mediating relationship is that the independent variable (EO) must significantly predict the mediator (TL) is satisfied. The findings of this study are similar to those of previous studies that discovered a positive relationship between EO and learning (Rivas et al. 2020; Sirén et al. 2017).

This study also uses a multiple regression analysis for the third-stage testing whether a mediating relationship exists between EO and IP (Table 6). This table contains four models. In the first model, this study uses 11 control variables that previous studies have shown to affect a firm's IP. The control variables have a significant ($p < 0.01$) impact on IP. The adjusted R^2 of Model 1 is 0.296.

The second model comprises all control variables and includes EO (Hypothesis 1). This model is significant ($p < 0.01$), with an adjusted R^2 of 0.333 and an increase of 0.041 from the first model. It also shows that EO significantly ($p < 0.01$) impacts IP. The third model consists of control variables and TL. It is significant ($p < 0.01$) with an adjusted R^2 of 0.350 (showing a 0.054 increase over the first model), and TL significantly predicts IP ($p < 0.01$). The last model has all the control variables, EO, and TL. This model is significant ($p < 0.01$), with an adjusted R^2 of 0.356, an increase of 0.060 over the first model.

Although TL is a significant predictor of IP ($p < 0.01$), EO is not a significant predictor of the dependent variable. In other words, the inclusion of TL, the mediation variable in the regression, makes EO, the independent variable, a nonsignificant predictor of IP. This regression confirms the presence of a full mediating relationship, which occurs when the independent variable

TABLE 6 | Regression analysis: international performance.

	1	2	3	4
Constant	15.8** (1.8)	16.2** (1.7)	16.7** (1.7)	16.6** (1.7)
US nationality	−1.2 (0.91)	−1.3 (0.89)	−0.76 (0.88)	−0.94 (0.89)
UAE nationality	5.3** (0.94)	5.2** (0.91)	4.8** (0.90)	4.9** (0.90)
International experience	0.08* (0.04)	0.08* (0.04)	0.06 (0.04)	0.06 (0.04)
Number of countries	0.08** (0.02)	0.07** (0.02)	0.07** (0.02)	0.07** (0.02)
Manufacturer ISIC 1	−3.9** (1.3)	−3.8** (1.3)	−3.9** (1.3)	−3.9** (1.3)
Manufacturer ISIC 2	−1.7 (1.5)	−2.1 (1.5)	−1.2 (1.5)	−1.5 (1.5)
Manufacturer ISIC 3	−0.82 (1.1)	−0.97 (1.0)	−0.36 (1.2)	−1.2 (1.0)
Professional services ISIC 4	0.95 (1.3)	0.56 (1.2)	0.35 (1.3)	0.29 (1.2)
Firm size	−0.01 (0.01)	0.01 (0.01)	−0.01 (0.01)	−0.01 (0.01)
Firm age	−0.04 (0.02)	−0.04 (0.22)	−0.03 (0.02)	−0.03 (0.02)
Target market environment	0.23 (0.31)	0.18 (0.31)	0.18 (0.30)	0.16 (0.30)
Entrepreneurial orientation		1.0** (0.29)		0.53 (0.33)
Transformative learning			1.6** (0.40)	1.3** (0.46)
Adjusted R^2	0.296	0.333	0.350	0.356
Change in adj. R^2		0.041	0.054	0.060
F /significance		11.4**	16.6**	9.6**

Note: * $p < 0.05$; ** $p < 0.01$; unstandardized betas reported; Std. error in parentheses.

influences the dependent variable only through the mediating variable (Tomaselli et al. 2022).

Hypothesis 2, which proposes that EO is an antecedent of TL, is supported. The results also support Hypothesis 3, which suggests that TL mediates the EO–IP relationship. Surprisingly, a direct relationship between EO and IP is not supported in Model 4. EO predicts IP only if TL is not present in the regression. These findings shed light on the contradictory findings of previous studies that examined the impact of EO on performance (Rauch et al. 2009). Many of these studies show a direct relationship because they did not calculate the impact of the TL. The entrepreneurial spirit in a company does not directly affect its performance. Its impact on performance is rather indirect because companies with higher EO tend to build higher levels of learning, and as a result, IP increases.

This study follows the recommendation of Zhao et al. (2010) to seek reassurance that mediation exists in the model and employs two additional statistical techniques, the Sobel method and the bootstrapping method, to test for mediation. These two techniques are used because some researchers (e.g., Preacher and Hayes 2008) have indicated that the Baron and Kenny (1986) method may show mediation when it does not exist in reality.

The Sobel test (Sobel 1986) is a specialized t -test used to investigate whether the effect of the independent variable is statistically significantly weakened if the mediator is introduced to the model. It directly tests for the significance of the ab path. Despite the many advantages of the Sobel test in accurately predicting mediation (MacKinnon et al. 2007), it has the disadvantage that it presumes a symmetrical distribution and works better with larger samples (Zhao et al. 2010). These drawbacks may distort the results of the mediating analysis. Therefore, we decided to superimpose the bootstrapping method to ensure the accuracy of the findings. This non-parametric process does not presuppose a symmetrical or asymmetrical sample (Preacher and Hayes 2008).

The findings of the Sobel test and bootstrapping are presented in Table 7. Both tests are significant and corroborate the results obtained using the Baron and Kenny (1986) method. The bootstrapping technique shows that the influence of the independent variable EO on the mediator is 46%, while the direct effect of the mediator TL on the dependent variable IP is 38%. The total effect of EO on IP is only 3.7%. We additionally ran the Durbin–Wu–Hausman test, and the result was insignificant ($p > 0.05$), indicating that endogeneity is not a serious issue.

5 | Discussions and Conclusion

5.1 | Discussion

The results of this study support the mediating role of TL in the EO–IP relationship. Notably, a positive EO–IP relationship emerges as significant only in the absence of TL. However, when TL is included in the regression analysis, EO ceases to be a significant predictor of IP. This intriguing finding contradicts established studies (e.g., Huang et al. 2023; Miller 2011) that traditionally support a positive relationship between EO and IP. It aligns, however, with earlier research (e.g., Wales, Patel, et al. 2013), suggesting that increasing EO might be detrimental to SME performance when specific capabilities are lacking, and the EO–IP relationship is mediated by factors such as learning and innovation (Kang et al. 2022). The study by Li et al. (2009), which found a weak but significant EO–IP relationship when mediated by the knowledge creation process, reinforces our novel result, emphasizing the importance of considering TL as a predictor variable. This highlights the necessity of recognizing the boundary conditions in the EO–IP relationship and exploring potential mediating factors (Rauch et al. 2009).

These findings suggest that TL is a more powerful mediator than previously recognized forms of learning. This is particularly evident in our analysis, which shows that EO's influence on IP is significantly enhanced when firms engage in TL. Unlike more incremental forms of learning, TL enables firms

TABLE 7 | Further tests of the mediating influence of transformative learning on the entrepreneurial orientation–international performance relationship.

	International performance			
Panel 1: The Sobel method				
Formula: $S_{ab} = \text{SQRT}(b^2s_a^2 + a^2s_b^2 + s_a^2s_b^2)$	Coeff.	SE	Sig. (two)	
a = unstandardized regression coefficient for the relationship between IV and MV	0.354	0.045	0.00	
b = unstandardized regression coefficient for the relationship between MV and DV	2.566	0.393	0.00	
Panel 2: Bootstrap results				
	Coeff.	SE	t	
IV to mediators (a paths)	0.460	0.045	7.81	
Direct effects of mediators on DV (b paths)	0.380	0.444	5.54	
Total effect of IV on DV (c path)	0.037	0.341	0.59	
Indirect effects of IV on DV through proposed mediators (ab paths)	Effect	Boot	LL	UP
	0.869	0.181	0.1005	0.2325
Sample size: 261 number of bootstrap resamples: 5000				

Note: LL 95% CI, lower limit 95% confidence interval; UL 95% CI, upper limit 95% confidence interval.

* $p < 0.05$; ** $p < 0.01$.

to fundamentally rethink and adapt their strategies in response to new international market challenges, leading to better performance outcomes. This finding aligns with the work of Cope (2011) and Ferreras-Méndez et al. (2019), who emphasized the transformative potential of learning in dynamic environments but extended their conclusions by applying these insights specifically to the EO–IP context in SMEs.

This study contributes significantly to the EO literature in several key ways. It illuminates that EO, rather than directly influencing performance, affects TL. This underscores the profound impact of a company's entrepreneurship in shaping its accumulated TL. The more TL SMEs acquire, the better equipped they become to understand foreign market dynamics and competitors, develop entry strategies, and deliver superior intellectual property (Berends and Antonacopoulou 2014; Elbanna et al. 2024). Furthermore, our findings suggest that TL positively mediates the EO–IP relationship. This extends the understanding of EO's impact by highlighting that TL serves as a strategic capability for SMEs. Berends and Antonacopoulou (2014) assert that the learning environment fostered by EO is crucial for SMEs to navigate dynamic markets. Elbanna et al. (2024) further support this by demonstrating the advantages of knowledge acquisition and transfer in international activities. This research builds on these foundations by showing how TL enables SMEs to better understand foreign market dynamics, develop effective entry strategies, and enhance their intellectual property.

The direct influence of EO on TL reshapes our understanding of EO's impact beyond performance outcomes. It suggests that EO drives SMEs to cultivate TL capabilities, which in turn equip them to better navigate and compete in international markets.

This theoretical insight bridges a gap in the literature by demonstrating that EO's true value lies in its ability to foster an adaptive and innovative organizational culture through the dimension of TL. While earlier studies have explored various forms of organizational learning and their impact on performance, few have specifically examined TL's role in this context. For instance, Zahra et al. (2000) and Wang (2008) investigated how general organizational learning processes mediate the EO–performance relationship, but these studies did not distinguish between different types of learning, such as TL, which involves profound cognitive shifts and strategic reorientation. For EO scholars, this means shifting the focus from EO's direct effects on performance to understanding how EO-induced learning processes lead to sustainable competitive advantages.

5.2 | Contributions to Theory and Practice

Our study offers a novel and necessary contribution by identifying TL as a required mediating mechanism in the EO–IP relationship. EO research has long grappled with mixed empirical results (Rauch et al. 2009; Covin and Miller 2014), often due to undertheorized mediators. We demonstrate that in the absence of TL, EO shows no significant direct effect on IP. This finding suggests that TL is not just an optional mediator—it is *essential* to understanding how EO translates into performance in international contexts. Our unique contribution lies in revealing a complete mediating relationship within the EO–IP framework when TL is considered. Without the inclusion of TL, EO studies risk attributing causal impact to a variable that functions primarily through its effect on firm-level learning capabilities. This theoretical omission would obscure the real mechanism through which entrepreneurial

behaviors translate into international outcomes, thus limiting explanatory power and practical insight.

Moreover, this study differs from prior research by focusing on SMEs rather than large firms. Most EO–IP studies have concentrated on larger organizations, as noted by Younis and Elbanna (2022), underplaying the unique challenges and opportunities faced by SMEs in international markets. By highlighting how SMEs can leverage TL to overcome resource constraints and enhance their IP, this research provides a novel perspective that broadens the scope of EO and IP studies.

From a practical perspective, our results offer actionable insights for SMEs seeking to enhance their entrepreneurial activities. The findings suggest that promoting TL within the company can significantly boost EO. Managers can facilitate TL through involvement and training programs that transmit both explicit and implicit knowledge. The study emphasizes the need for a balanced approach, where managers optimize the value creation process by balancing EO and TL activities. Additionally, it underscores the importance of monitoring SME knowledge flows, particularly when TL is present, as it poses both challenges and opportunities for intellectual property development. Building on insights from Karami et al. (2023), this study emphasizes the necessity for management to closely attend to these dynamics, facilitating effective decision-making and problem-solving within the organization.

5.3 | Limitations and Future Research Directions

There are potential limitations to this study that open opportunities for future research. First, similar to prior studies on SME internationalization, the data for each firm is obtained from a single respondent. In addition, we could not use certain secondary data, such as objective IP data, because the concerned firms are private and do not share data publicly. Second, this research uses the European Union definition of SMEs and excludes those considered SMEs in the US (firms with 250–500 employees). Future researchers can attempt to overcome these data-gathering shortcomings by studying publicly traded firms, including those with up to 500 employees.

Third, the results might be limited in generalization because we only tested the best-selling (largest sales) foreign markets. The relationship might vary if other markets, such as the best-performing market (highest return on investment), are used. Future research can complement the existing knowledge by testing ideas, considering other markets, or the firm's overall IP. Fourth, the current study does not consider the TL time dimensions. However, three sets of mechanisms concerning time may be discerned: time as the duration of TL, the timing of TL, and the role of the past, present, and future in TL (cf. Hsieh et al. 2019). These perspectives offer unique insights that can help map new directions for future research when integrated. Thus, the mediating effect of TL on the EO–IP relationship may benefit from using a longitudinal methodology.

Finally, there remains significant potential for further exploration of cultural dimensions as boundary conditions in cross-cultural studies. Future research could investigate how any of the understudied dimensions, such as the masculinity-femininity

dimension, interacts with EO and TL to influence IP in international SMEs. For example, it would be valuable to explore whether the effectiveness of TL as a mediating factor varies between more individualistic cultures, where self-directed learning and innovation may be more prominent, and more collectivist cultures, where group learning and shared knowledge may play a larger role.

In conclusion, this study extends the existing entrepreneurship and international business literature by unpacking the learning-based microfoundations of EO in SMEs, showing that EO's influence manifests through cognitive restructuring and strategic learning; and by articulating how TL facilitates adaptation to foreign market complexity, which is central to SMEs' IP. In addition to acknowledging EO and TL as important attributes that improve firms' IP, the study introduces TL as a critical mediating factor under which EO with a high level of TL can be negatively associated. TL enhancement can substitute for the lack of EO in a firm to improve IP or vice versa. This insight moves the literature beyond treating EO as a “black box” and provides a replicable mechanism that future research can adopt, test, and refine.

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Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Research data are not shared.

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Appendix Measurement Items A

Please answer the following questions with reference to your firm's activities in the foreign country in which your firm achieves the highest level of sales.

Please evaluate the following sentences by circling the appropriate number.

(For these questions, **1** means that the sentence on the **left** is valid, and **7** that the sentence on the **right** is valid.)

Entrepreneurial Orientation Items (Adopted From Covin and Miller 2014)

1. In general, the top managers of my firm favor ...

"A strong emphasis on the **marketing of tried-and-true** products or services" or "A strong emphasis on **R&D, technological leadership and innovations**."

2. How many new lines of products or services has your firm marketed in the past 5 years (or since its establishment)?

"**No** new lines of products or services" or "**Very many** new lines of products or services."

"Changes in products or services lines have been mostly of a **minor** nature" or "Changes in products or service lines have usually been quite **dramatic**."

3. In dealing with its competitors, my firm ...

"Typically **responds to actions** that competitors initiate" or "Typically **initiates actions** to which competitors then respond."

"Is very **seldom** the first business to introduce new products/services, administrative techniques, operating technologies, etc." or "Is very **often** the first business to introduce new products/services, administrative techniques, operating technologies, etc."

"Typically **seeks to avoid** competitive clashes, preferring a 'live-and-let-live' posture" or "Typically **adopts a very competitive** 'undo-the-competitors' posture."

4. In general, the top managers of my firm have ...

"A strong proclivity for **low-risk** projects (with normal and certain rates of return)" or "A strong proclivity for **high-risk** projects (with chances of very high return)."

5. In general, the top managers of my firm believe that ...

"Owing to the nature of the environment, it is best to explore it gradually via **cautious, incremental** behavior" or "Owing to the nature of the environment, **bold, wide-ranging** acts are necessary to achieve the firm's objectives."

6. When confronted with decision-making situations involving uncertainty, my firm ...

"Typically adopts a **cautious, "wait-and-see"** posture in order to minimize the probability of making costly decisions" or "Typically adopts a **bold, aggressive** posture in order to maximize the probability of exploiting potential opportunities."

Transformative Learning Items (Based on Cope 2005; Dimitratos et al. 2012)

1. Without reference to the management philosophy for the activities of my firm in this foreign country

"Our employees are evaluated and compensated based on their **responsibilities**" or "Our employees are evaluated and compensated based on the **value** they **add** to the firm."

"An employee's standing is based on the amount of **responsibility** s/he has" or "An employee's standing is based on the **value** s/he **adds**."

2. With regards to the management philosophy for the activities of my firm in this foreign country, generally we stress ...

"**Holding to tried and true** management principles and industry norms" or "**Adapting freely** to changing circumstances without much concern for past practices."

3. In its activities in this foreign country, my firm has a formal or informal process ...

“Formal” or “Informal.”

4. For continuously collecting information from customers

“Strongly Agree” or “Strongly Disagree.”

5. For continuously collecting information about “competitors” activities

“Strongly Agree” or “Strongly Disagree.”

6. For sharing information effectively between departments or functions of the firm

“Strongly Agree” or “Strongly Disagree.”

7. That provide clear direction on implementation of activities in this foreign country

“Strongly Agree” or “Strongly Disagree.”

8. That evaluate the effectiveness of these activities

“Strongly Agree” or “Strongly Disagree.”