Entrepreneurial Business and Economics Review

2026, Vol. 14, No. 2

10.15678/EBER.2026.140208

Managerial routines and internationalisation: Mediating role of digital capacity

Krystian Bigos, Paweł Milka

ABSTRACT

Objective: The article aims is to verify whether the adoption of managerial routines, namely, monitoring performance and setting targets and incentives, affects the probability and intensity of firms' export activity and whether digital capacities act as a mediating mechanism between managerial routines and firms' internationalisation.

Research Design & Methods: We used firm-level data from the World Bank Enterprise Surveys conducted in Poland in 2025. We applied a quantitative approach, combining logistic regression for internationalisation propensity, fractional logit regression for internationalisation intensity, and mediation analysis. We measured managerial routines with three dichotomous indicators: monitoring, target setting, and incentives. We operationalised digital capacity as firms' online presence.

Findings: All three managerial routines are positively and significantly associated with the likelihood and intensity of internationalisation. In addition, we observed that digital capacity partially mediates the relationship between managerial routines and the likelihood of internationalisation, suggesting that firms with more structured managerial routines are more likely to internationalise, partly because they are more likely to adopt basic digital tools.

Implications & Recommendations: The findings suggest that relatively managerial routines, such as systematic monitoring, target setting, and incentives, may strengthen firms' international competitiveness both directly and indirectly through digital capacity development. Therefore, managers should treat digitalisation not as a standalone technological investment, but as part of a broader system of managerial routines and governance mechanisms.

Contribution & Value Added: The research contributes to the international business literature by integrating research on managerial routines and digital transformation within an empirical framework. It also extends the resource-based view and dynamic capabilities perspective by identifying digital capacity as a mediating mechanism between internal management systems and firms' internationalisation.

Article type: research article
Keywords: managerial practices; managerial routines, internationalisation; digital capacity; export
JEL codes: F23, M16, L25, O33

Received: 16 December 2026 Revised: 21 March 2026 Accepted: 21 April 2026

Suggested citation:
Bigos, K., & Milka, P. (2026). Managerial routines and internationalisation: The role of digital capacity as a mediator. *Entrepreneurial Business and Economics Review,* 14(2), 129-149. https://doi.org/10.15678/EBER.2026.140208

INTRODUCTION

Foreign expansion is one of the most important strategic decisions shaping firms' long-term growth and competitiveness (Daszkiewicz & Wach, 2023; Johanson & Vahlne, 2009; Wach & Daszkiewicz, 2023; Wach *et al.*, 2022). Thanks to this, companies gain access to new markets and increase their learning capabilities, while the lack of experience-based knowledge is costly for the company because it cannot determine what knowledge is useful to overcome challenges in foreign markets (Martín Martín *et al.*, 2022). In addition to external factors, internal determinants play a particularly important role in the internationalisation process. Internationalisation is a phenomenon that requires managers not only to equip firms with appropriate resources but also to provide them with effective systems of management and organisation (Bianchi & Stoian, 2024; Kaur & Kumar, 2026).

An increasing number of studies in the internationalisation literature focus on identifying management practices (Bianchi & Stoian, 2024; Sánchez-Monterrosa & Del Rio Cortina, 2025; Shen & Badulescu, 2025), understood as structured systems for monitoring performance and firms' targets, and rewarding the achievement of these targets (Bloom & Van Reenen, 2007; Doan & Vu, 2024), which significantly affect firm performance (Lamorgese *et al.*, 2024). Although the scientific literature investigates and discusses very broadly the topic of managerial routines from different multidimensional viewpoint, we adopted our process of thought to simplified definition of managerial routines complied with Doan and Vu (2024). They understand managerial routines in four dimensions: (1) targets, (2) monitoring, (3) incentives, and (4) operations (Doan & Vu, 2024). Due to the limited possibility of selecting variables and considering the fact that the measurement of managerial routines is based on World Bank Enterprise Surveys (2025) data, we restricted the operationalisation of managerial routines to three dimensions: (1) monitoring, (2) targeting, and (3) incentives.

Moreover, numerous researchers in the field of digital transformation have emphasised that digital technologies reshape coordination, information processing, and interactions with external stakeholders (Bartosik-Purgat & Rakowska, 2024; Chen *et al.*, 2025; Choczyńska *et al.,* 2024; Głodowska *et al.*, 2023; Hoblos *et al.*, 2024). However, scholars have devoted relatively little attention to the role these technologies play within the internal management systems of internationalised firms (Singh *et al.*, 2026). Accordingly, in this research, we addressed the following research questions: (RQ1) Do management practices increase the probability and intensity of firms' internationalisation? and (RQ2) Do digital capacities mediate the relationship between managerial routines and firms' international performance?

Thus, the objective of this study was, firstly, to verify whether the adoption of managerial routines translates into the probability and intensity of export activity among the firms analysed, and, secondly, to examine whether digital capacities act as a mediating mechanism between management practices and firms' internationalisation. This responds to a growing body of evidence indicating that better-managed firms are more likely to export, serve more destinations, and generate higher export revenues (Kamal, 2024; Vardarsuyu *et al.*, 2024). Furthermore, we examined whether digital capacity, captured through the implementation of a corporate website, mediates the relationship between management practices and internationalisation. In doing so, we addressed several research gaps.

Existing studies rarely integrate the literature on management practices, digitalisation, and internationalisation within a unified empirical framework; consequently, the organisational mechanisms linking internal managerial procedures with outward-oriented strategic outcomes remain insufficiently specified (Singh *et al*., 2026). Moreover, prior research often treats digitalisation as an exogenous correlate of export performance (N. Li *et al.*, 2023; Liu *et al.*, 2025) rather than as a capability shaped by internal managerial processes (Kautish *et al.*, 2025). By explicitly modelling management practices, digital capacity, and internationalisation within a mediation framework, we aimed to clarify how these elements interact.

In this study, we adopted a perspective grounded in the resource-based view and dynamic capabilities theory (Barney, 2001; Penrose, 1959; Teece, 2007; Teece *et al.*, 1997). Our findings are intended to contribute to the development of both theoretical approaches. We argue that managerial routines constitute firm-specific organisational resources that foster the development of higher-order capabilities, particularly digital capabilities (Lee *et al.*, 2025; Shen & Badulescu, 2025). These capabilities enable firms to more effectively reconfigure operations, leverage information flows, and coordinate cross-border activities (X. Du & Huang, 2025; G. Li *et al.*, 2025).

Our research strategy was quantitative and explanatory. Empirically, we relied on data from the World Bank Enterprise Survey, conducted, among others, in Poland in 2025, which provides harmonized information on firms' internal practices, digital tools, and international activities. The choice of Poland was not accidental, as it is perceived as a rapidly developing European economy strongly oriented toward export activity and digital transformation (Gaweł *et al.*, 2023; Sobczak *et al.*, 2026). Methodologically, we employed logistic regression and fractional logistic regression models to estimate the impact of management practices and digital capacity on the probability and intensity of internationalisation. We devoted particular attention to the potential mediation effect of digital capacity, which also contributes to the scholarly discussion within the frameworks of the resource-based view and dynamic capabilities (Barney, 2001; Penrose, 1959; Teece, 2007, 2018; Teece *et al.*, 1997).

The article is structured as follows. Firstly, we present the theoretical framework by reviewing the literature on management practices and their role in firms' internationalisation. In this section, we also consider the role of digital capacities as a mediating mechanism and formulate six research hypotheses. The subsequent methodological section discusses the theoretical research model and operationalises the dependent, independent, and control variables. Finally, the last section presents the econometric analysis and tests for potential mediation.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Internationalisation constitutes a phenomenon examined by researchers from different perspectives (Garncarz & Michalik, 2025; Gorynia *et al*., 2024; Milka & Garncarz, 2025; Puchalska *et al.,* 2025; Rašković & Daminova, 2025; Witek-Hajduk & Grudecka, 2024), including the theory of management (Ruzzier *et al*., 2006), as well as the theory of resource-based (Barney, 2001; Penrose, 1959). Although researchers initially concentrated on internationalisation processes in large corporations (Tsai & Eisingerich, 2010), in recent years, studies on the internationalisation of small and medium-sized enterprises (SMEs) have become significantly more prominent (Fernandes *et al.*, 2023).

For decades, scholars explained firm internationalisation predominantly sequentially, which was popularised by the Swedish scholars Johanson and Vahlne (1974), who introduced their original internationalisation model, the so-called Uppsala model of internationalisation. A breakthrough in this stream of research occurred around the mid-1990s, when Oviatt and McDougall (1994) and Cavusgil (1994), working independently, demonstrated that not all firms follow an incremental path of internationalisation; rather, some may 'leapfrog' certain stages of the process without necessarily gradually increasing their commitment to foreign markets.

Research on internationalisation of firms is gaining significance, particularly in the context of digital transformation of business, and has become an area of interest for many scholars in the field of international business (Feliciano-Cestero *et al.*, 2023; Jiang & Wang, 2024; Meyer *et al.*, 2023; Nunes *et al.*, 2025; Singh *et al.*, 2026). Internationalisation is a dynamic phenomenon in which the business practices adopted by firms play a crucial role (Jercan & Nacu, 2024), as they drive continuous changes in firms' business models to ensure ongoing adaptation to the transforming economic environment (Cruz-Sánchez *et al.*, 2026; Valentowitsch *et al.*, 2024).

The issue of measuring managerial routines in enterprises was extensively explored, among others, by Bloom and Van Reenen (2007). The researchers emphasised that managerial routines are positively associated with productivity, profitability, Tobin's Q, and firm survival indicators (Bloom & Van Reenen, 2007). Notably, concepts related to managerial routines were expanded to include new contexts, with greater attention to strategic managerial capabilities (Pocztowski & Pauli, 2023; Wrede *et al.*, 2020). Many studies indicate that managerial routines may be a predictor of a firm's propensity to internationalisation (Y.-A. Chen *et al.,* 2024; Shen & Badulescu, 2025) because managers equipped with more effective organisational skills are more likely to identify and exploit opportunities on an international dimension (Popli *et al.,* 2022).

Furthermore, we may explain the relationship between managerial routines, understood as an activities undertaken by managers on their daily basis, and internationalisation, among others, by the theory of management, especially by resource-based view (RBV; Barney, 2001; Bianchi & Mathews, 2016; Y.-A. Chen *et al.*, 2024; Penrose, 1959) and the theory of dynamic capabilities (Pitelis & Teece, 2010; Teece, 2007, 2018; Teece *et al.,* 1997). According to RBV, managerial and organisational resources are helpful to overcome barriers related to foreign operations and to identify international opportunities (Y.-A. Chen *et al.*, 2024; Penrose, 1959). Managerial routines based on performance monitoring, effective goal setting, and appropriate incentive mechanisms (Bloom *et al.*, 2019; Bloom & Van Reenen, 2007) can constitute an intangible resource that strengthens the firms' ability to coordinate cross-border operations (Shen & Badulescu, 2025).

In turn, the dynamic capabilities framework (Teece, 2007, 2018; Teece *et al.*, 1997), which extends the resource-based approach (Barney, 2001; Penrose, 1959), argues that engaging in international business activity requires flexibility, entrepreneurship, and learning – fundamental elements of the dynamic capabilities concept (Pitelis & Teece, 2010).

Recent research on the internationalisation of SMEs confirms that managerial routines can enhance the likelihood of firms' survival in foreign markets (Freixanet & Renart, 2020) and, consequently, may also influence the intensity of international involvement (Wai *et al.*, 2022). Therefore, we formulated the following hypotheses:

H1a: Monitoring performance and setting targets and incentives increase the likelihood of firms' internationalisation.

H1b: Monitoring performance and setting targets and incentives positively affect the intensity of internationalisation.

H1c: Monitoring performance and setting targets and incentives positively affect the digital capacity of firms' online presence.

Digital technologies have become central to current research on internationalisation and business practices, as they significantly alter how firms organise their production activities and engage with customers (Gaweł *et al.*, 2023; G. Li *et al.*, 2025). The ongoing digital transformation of business compels scholars to reconsider established resource-based perspectives and the theory of dynamic capabilities to the point where modifications to the theoretical foundations themselves become necessary (Valentowitsch *et al.*, 2024). As noted by Valentowitsch *et al.* (2024), updated conceptual frameworks move away from an exclusive emphasis on long-term sustainable competitive advantage and instead acknowledge the need to more accurately reflect the fluid and fast-evolving conditions characteristic of the digital environment.

Digital transformation and the development of information and communication technologies have significantly changed the conditions under which firms operate in international markets (Meyer *et al.*, 2023). Digital tools enable more efficient acquisition of market information, supply chain management, process coordination, and relationship development with foreign customers. In the literature, digital technologies can reduce different barriers in international expansion, particularly among SMEs, by lowering transaction costs and increasing access to sales channels (Brouthers *et al.*, 2016; Drori *et al.*, 2024). In this context, a firm's digital capacity is perceived as a critical resource that facilitates faster and more effective internationalisation (Monaghan *et al.*, 2020) and which fundamentally reshape traditional business strategy and global business processes that enable work to be carried out across boundaries of time, distance, and function (Bharadwaj *et al.*, 2013).

According to Kastelli *et al.* (2024) digital capacity is primarily a driving force and an enabling factor for the implementation of digital transformation. In other words, the concept refers to firms' potential to adopt and leverage digital technologies and to digitalise their offerings to support business processes, strategic objectives, and value-creating activities (Kastelli *et al.,* 2024). Digital capacity includes both the technological infrastructure a company has and the organisational skills needed to use these technologies effectively (Bharadwaj, 2000).

Digital technologies (*i.e.*, artificial intelligence, virtual and augmented reality, cloud solutions) provide firms with opportunities to rethink their strategic orientations and governance models, while reshaping organisational processes, structures, roles, and boundaries. In doing so, they create new avenues for achieving and sustaining competitive advantage (Cennamo *et al.*, 2020; Kemp, 2024; Yordanova *et al.*, 2024).

The expanding use and implementation of digital technologies can constitute a fundamental internationalisation pillar for SMEs (Etemad *et al.*, 2010; Yordanova *et al.,* 2024). A growing body of research is exploring how digital technologies can help small and medium-sized enterprises (SMEs) expand internationally. These technologies offer new ways to enter foreign markets, create and deliver value to international customers, build knowledge and relationships across borders, and find new international opportunities (Yordanova *et al.,* 2024). Therefore, we proposed the following hypotheses:

H2a: Digital capacity as firms' online presence increases the likelihood of firms' internationalisation.

H2b: Digital capacity as firms' online presence positively affects the internationalisation intensity.

Numerous studies draw attention to the significance of managerial routines in shaping a firm's digital capacities (Bloom *et al.,* 2016; Held *et al.*, 2025; Heubeck, 2023). Certain researchers contend that digital transformation transcends technological advancements; it necessitates profound organisational shifts encompassing strategy, processes, and human resource management, all of which are contingent upon managerial choices (Hanelt *et al.*, 2021). Top management is crucial to a company's digital transformation, focusing on three main areas: (1) understanding digitalisation, (2) creating a formal organisational structure for digital projects, and (3) leading organisational change (Wrede *et al.*, 2020).

Managerial routines influence internationalisation not only directly but also indirectly through their impact on a firm's digital capacity (Gomes *et al.*, 2025). Higher-quality management practices contribute to the development of digital capacity, which in turn enhances a firm's ability to internationalise. Digital capacity mediates the relationship between organisational resources and the international performance of SMEs. The capabilities and resilience of digital platforms fully mediate the relationship between digital resources and SME growth (Aghazadeh *et al.*, 2024), which in turn suggests that managerial input alone may be insufficient for firms' foreign expansion without developing digital capacity. Accordingly, we formulated the following hypotheses:

H3: Digital capacity as firms' online presence mediates the relationship between managerial routines (monitoring performance and targets and incentives) and the internationalisation likelihood.

Managerial approaches and organisational assets that facilitate adaptation to international markets influence companies' internationalisation. In the context of economic digitalisation and its growing impact on global trade, digital capabilities are emerging as a vital organisational resource. This capacity allows firms to surmount challenges to international growth and expand their operations within global markets. By facilitating the seamless exchange of real-time data and supporting remote digital collaboration, digital technologies are, in essence, reducing the importance of traditional geographical constraints (Schmeisser *et al.*, 2026).

RESEARCH METHODOLOGY

Sample and Data Collection

We employed a quantitative approach and the conclusions are based on processed firm-level raw data retrieved from the World Bank Enterprise Surveys (2025). The research was explanatory in nature, aiming to verify the relationship between managerial routines and firm internationalisation, considering a mediating mechanism of digital capacity as firms' online presence. The study included Polish enterprises that participated in the survey in the 2025 edition (World Bank, 2025). Based on responses from the surveyed firms, we constructed an econometric model to test the research hypotheses derived from the literature and verify the existence of a mediation effect in the relationship between managerial routines and internationalisation. Due to limited variable selection, we applied a somewhat simplified operationalisation.

The unit of analysis comprised all firms operating in Poland that participated in the World Bank Enterprise Surveys (2025), controlled for, *e.g.*, age, experience, innovation, size and foreign capital. Most of the variables were coded dichotomously. Moreover, only firms that provided complete responses to the selected questions were included, ultimately limiting the sample to 933 Polish enterprises.

The research sample comprises 933 SMEs and large enterprises (World Bank, 2025), with small firms accounting for 3.1%, medium firms for 49.5%, and large firms for 47.4%. The surveyed enterprises represented the following industries: other services (17.4%), other manufacturing (16.4%), construction (13.0%), retail (12.2%), fabricated metal products (12.0%), food (11.8%), professional services (9.8%), and motor vehicles (7.4%).

Research Model

The research model (see Figure 1) assumed that managerial routines positively influence both the likelihood and the intensity of internationalisation. However, digital capacity was a critical factor in this context, as it clarified the mechanism by which managerial routines influence internationalisation. Therefore, managerial routines alone might not directly lead to international expansion without the support of digital capacity.

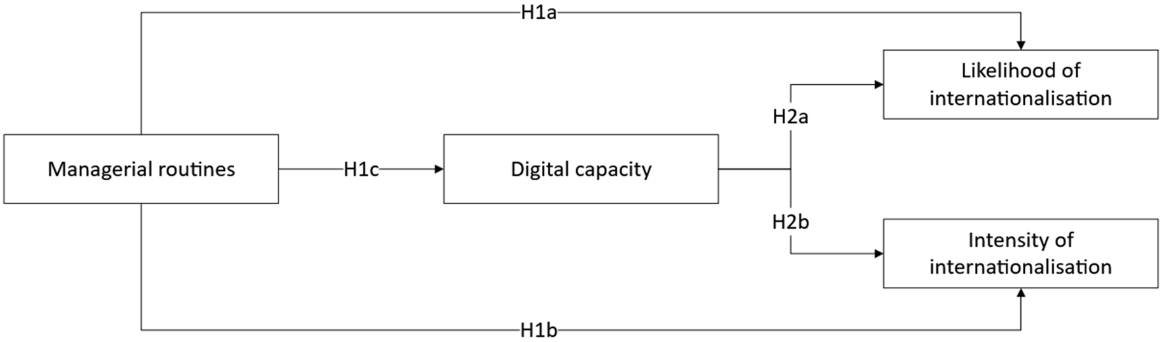

Figure 1. Proposed research model
Source: own elaboration.

We assessed internationalisation, the dependent variable through two distinct measures: (1) the likelihood of internationalisation, measured dichotomously (Bigos & Michalik, 2023, 2024; Cieślik *et al.*, 2024), and (2) its intensity, operationalised as the proportion of foreign sales relative to total sales (Cheng *et al.*, 2025). We modelled digital capacity of firms' online presence as a mediator, that is, a mechanism influencing the relationship between the exogenous variable (managerial routines measured in three dimensions: monitoring, targeting, and incentives) and the endogenous variable (internationalisation measured in two ways: dichotomously and as a share of foreign sales in total sales). The mediation structure enables verification of whether digital capacity partially or fully accounts for the impact of managerial routines on firms' international engagement.

Measures

Control Variables

In the study, we included six control variables, the first of which was firm AGE (a continuous variable), indicating the number of years the firm has been operating in the market. In line with Sous Atari *et al.* (2025), it was reasonable to posit that increased market experience correlates with enhanced managerial competencies, which may subsequently influence internationalisation outcomes. In the research, we also controlled EXPERIENCE, *i.e.*, a continuous variable referring to the number of years of professional experience of the top manager in a given industry (*e.g.*, Sánchez Pulido *et al.*, 2022). Similar to AGE, experience also translates into the ability to recognize market opportunities and may therefore influence the firm's export performance. P_INNOVATION and BP_INNOVATION were two additional dichotomous control variables relating to firm innovativeness (*e.g*., Moreno-Menéndez, 2018; Wach, 2016). The operationalisation of the first variable refers to whether the firm has introduced a new product or service over the past three years, while the second variable was defined through the lens of business process innovation, that is, whether the firm has introduced a new or significantly improved process over the past three years. The study also controlled for R&D, a dichotomous variable understood as the fact that the firm undertakes research and development expenditures, excluding market research (*e.g*., Fernhaber & Li, 2013). The final control variable was F_CAP (*e.g*., Woo, 2020), a continuous variable operationalised as the percentage of foreign capital in the firm's ownership structure.

Managerial Routines

We operationalised managerial routines based on a transformed variable derived from the World Bank Enterprise Surveys (2025), which contains data on firms from numerous countries worldwide. In the research, we adopted variable similar to Doan and Vu (2024), but presented only in three dimensions: monitoring, targeting and incentives, because of the limitation to the access of all variables in World Bank Enterprise Surveys (2025) database.

We considered three independent dichotomous variables (0-1) describing managerial routines: (1) MONITOR, (2) TARGET, and (3) INCENTIVES. The first exogenous variable referred to the fact whether the firm monitors production or service performance indicators. The second variable (TARGET) indicated whether the firms' managers set production or service targets. The final independent variable, INCENTIVES, indicated whether performance incentives based on production or service targets realization were awarded to employees.

Digital Capacity

In the study, we operationalised digital capacity as firms' online presence and measured it on a dichotomous scale, with 1 assigned to companies that had their own website and 0 otherwise.

Internationalisation

In this research, internationalisation was an endogenous variable operationalised through two indicators. The first indicator (INT_LOG) was dichotomous (0-1) and could be used to construct a logistic regression model to verify the internationalisation probability[1] (Bigos & Michalik, 2023, 2024; Cieślik *et al.*, 2024). The second internationalisation indicator (INT_SHARE) was continuous and referred to the share of foreign sales in total sales (Cheng *et al.*, 2025) and could be used to construct a fractional logit model.

RESULTS AND DISCUSSION

The results provided strong support for H1a (see Table 1). Managerial routines were positively associated with the likelihood of internationalisation. Firms that monitor performance indicators had odds of exporting more than three times those of firms that do not (OR = 3.22, z = 6.27, $p < 0.001$). Simultaneously, those that set formal targets and used incentives showed odds ratios of 2.60 (z = 4.61, $p < 0.001$) and 1.87 (z = 3.76, $p < 0.001$), respectively, controlling for age, managerial experience, innovation, R&D, and foreign ownership. These effect sizes were substantial and robust, indicating that firms with more structured managerial routines were significantly more likely to export than otherwise similar firms lacking such routines.

The pattern of control variables reinforced a resource and capability-based interpretation of export decisions. Firm age had a small but positive effect on export likelihood (OR between 1.012 and 1.024, $p < 0.05$), suggesting that accumulated organisational experience modestly increased the probability of internationalisation (Johanson & Vahlne, 2009), whereas the top manager's industry experience was not statistically significant in any model. Product and process innovation, R&D engagement, and foreign capital share were all positively and significantly associated with exporting, with foreign ownership showing the largest effects (OR between 7.3 and 9.1), consistent with prior work stressing the role of innovation and international networks in enabling foreign market entry (Battisti *et al.*, 2021; J. Du *et al.*, 2023; O'Cass & Weerawardena, 2009; Stoian *et al.*, 2017).

Model diagnostics indicated that the estimated relationships were statistically reliable and that the logistic specifications were well behaved. Pseudo R^2 values around 0.12-0.15 and highly significant Wald chi-square statistics ($\chi^2(7)$ = 116.3-135.4, $p < 0.001$) pointed to a meaningful improvement in fit over the intercept-only model, while correct classification rates of approximately 73% and ROC areas in the 0.72-0.74 range indicated acceptable discrimination between exporting and non-exporting firms. Hosmer–Lemeshow goodness-of-fit tests were non-significant in all three models (p-values be-

[1] If the company exports, we assign the number 1; otherwise, we assign the number 0.

tween 0.53 and 0.64), and link tests revealed no evidence of omitted non-linearities, suggesting that the logit functional form was adequate and that there were no major specification errors. These diagnostics lend further credibility to the conclusion that the observed effects of monitoring, target setting, and incentives on export likelihood were not artefacts of model misfit.

Table 1. Logistic regression (INT_LOG)

Variable	Model 1		Model 2		Model 3	
	Odd ratio	z	Odd ratio	z	Odd ratio	z
const.	0.111*** (0.029)	-8.450	0.103*** (0.028)	-8.510	0.138*** (0.033)	-8.210
AGE	1.012* (0.006)	2.000	1.014* (0.006)	2.430	1.014* (0.006)	2.340
EXPERIENCE	0.999 (0.009)	-0.090	1.002 (0.008)	0.240	1.005 (0.008)	0.610
P_INNOVATION	1.831* (0.503)	2.200	1.800* (0.522)	2.030	1.820* (0.513)	2.120
BP_INNOVATION	2.122* (0.751)	2.130	2.233* (0.798)	2.250	2.391* (0.883)	2.360
R&D	3.120*** (0.733)	4.840	3.390*** (0.780)	5.310	3.491*** (0.805)	5.430
F_CAP	7.345*** (2.727)	5.370	9.090*** (3.422)	5.860	8.825*** (3.273)	5.870
MONITOR	3.222*** (0.602)	6.270	-	-	-	-
TARGET	-	-	2.595*** (0.537)	4.610	-	-
INCENTIVES	-	-	-	-	1.867*** (0.310)	3.760
Wald	135.42***		122.78***		116.30***	
Pseudo R^2	0.1448		0.1282		0.1209	
Hosmer-Lemeshow test	6.03 (p=0.6437)		6.31 (p=0.6129)		7.04 (p=0.5319)	
N	933		933		933	

Notes: Robust standard errors in parentheses; p<0.05, ** p<0.01, *** p<0.001.
Source: own study based on World Bank(2025) in STATA.

From a theoretical perspective, these findings support the view of managerial routines as organisational routines (Surdu *et al.*, 2021) that channel and coordinate firm resources in ways conducive to internationalisation. The fact that relatively basic, yet formalized practices, namely monitoring performance and explicit targets, and tying incentives to results are all associated with substantially higher odds of exporting suggests that internationalisation is shaped not only by what resources firms possess (*e.g.*, innovation capabilities, foreign capital) but also by how these resources are governed and deployed. In line with this argument, the results imply that managerial routines operate as governance mechanisms that enhance a firm's ability to identify, evaluate, and exploit foreign market opportunities (Mainela *et al.*, 2014; Muzychenko & Liesch, 2015; Zahra *et al.*, 2005), providing empirical backing for H1a and contributing to micro-foundational explanations of export behaviour.

The results for H1b showed a consistent and robust positive association between managerial routines and the intensity of firms' internationalisation (see Table 2). In the models including monitoring practices, firms that systematically tracked performance indicators exhibited significantly higher export intensity than those that did not: the MONITOR dummy was positive and highly significant in both the fractional logit model (coef = 1.004, z = 4.92, p < 0.001) and the linear regression (β = 0.07, t = 4.96, p < 0.001). Similarly, TARGET and INCENTIVES were positively related to the share of foreign sales. Target setting was associated with a coefficient of around 0.61 (z = 2.76, p < 0.01) in the fractional logit specification and 0.04 (t = 2.71, p < 0.01) in OLS (see Table 3). Simultaneously, incentives showed coefficients of 0.47

(z = 2.83, p < 0.01) and 0.04 (t = 2.72, p < 0.01), respectively. On this basis, we conclude that H1b was supported: firms that adopt more structured managerial routines tend to display higher export intensity.

Table 2. Fractional logit vs. OLS (INT_SHARE)

Variable	Model 4a (FL)		Model 4b (OLS)		Model 5a (FL)	
	Coeff.	z	Coeff.	t	Coeff.	z
const.	-3.315*** (0.2371)	-13.99	0.017 (0.0203)	0.81	-3.187*** (0.2409)	-13.23
AGE	0.0078 (0.0043)	1.84	0.0009 (0.0006)	1.53	0.0097* (0.0044)	2.19
EXPERIENCE	0.0025 (0.0072)	0.35	0.0002 (0.0008)	0.21	0.0053 (0.0070)	0.76
P_INNOVATION	0.312 (0.2246)	1.39	0.032 (0.0265)	1.21	0.276 (0.2412)	1.15
BP_INNOVATION	0.811** (0.2565)	3.16	0.132*** (0.0330)	4.00	0.886*** (0.2610)	3.39
R&D	0.689*** (0.1775)	3.88	0.102*** (0.0217)	4.70	0.767*** (0.1805)	4.25
F_CAP	1.823*** (0.2404)	7.59	0.314*** (0.0298)	10.54	1.984*** (0.2410)	8.24
MONITOR	1.004*** (0.2041)	4.92	0.072*** (0.0146)	4.96	-	-
TARGET	-	-	-	-	0.606** (0.2192)	2.76
INCENTIVES	-	-	-	-	-	-
Pseudo R^2	0.1066		-		0.0932	
R^2	-		0.2086		-	
Adj. R^2	-		0.2026		-	
Wald	163.73***		-		146.92***	
F	-		34.83***		-	
N	933		933		933	

Notes: Robust standard errors in parentheses; p<0.05, ** p<0.01, *** p<0.001; FL – fractional logit; OLS – OLS regression.
Source: own study based on World Bank (2025) in STATA.

The pattern of control variables further clarified the mechanisms underlying export intensity. Across all specifications, business process innovation, R&D engagement, and foreign ownership were consistently positive and statistically significant predictors of INT_SHARE, with especially strong effects for foreign capital (β between 0.31 and 0.33 in OLS and coefficients around 1.82-1.98 in the fractional logit models). In contrast, the top manager's industry experience and product innovation did not reach conventional significance levels, and firm age exerted at most a weak and marginally significant effect. This configuration suggests that structural firm-level capabilities and resources, such as process upgrading, R&D activities, and international ownership, were more important drivers of export intensity than individual managerial tenure, while managerial routines amplified the translation of these capabilities into realised foreign sales (Fredrich *et al.,* 2022; Wai *et al.,* 2022).

Model diagnostics indicate that these relationships were statistically reliable and not an artefact of functional form or multicollinearity. The fractional logit models yielded pseudo R^2 values between 0.09 and 0.11 and highly significant Wald tests ($\chi^2(7)$ = 146.9-163.7, p < 0.001), whereas the corresponding OLS models explained approximately 19-21% of the variance in export intensity (R^2 around 0.19-0.21; F(7.925) around 31.8-34.8, p < 0.001). Generalised linear models with logit and probit links produced virtually identical estimates and information criteria (AIC, BIC), and variance inflation factors remained very low (mean VIF around 1.09-1.10), ruling out serious multicollinearity concerns. The convergence of results across fractional logit, OLS, and alternative GLM specifications strengthened confidence that the observed effects of MONITOR, TARGET, and INCENTIVES on INT_SHARE were robust to different modelling choices for fractional outcomes.

Table 3. Fractional logit vs. OLS (INT_SHARE)

Variable	Model 5b (OLS)		Model 6a (FL)		Model 6b (OLS)	
	Coeff.	t	Coeff.	z	Coeff.	t
const.	0.018 (0.0217)	0.84	-3.041*** (0.2114)	-14.38	0.0247 (0.0209)	1.18
AGE	0.0010 (0.0006)	1.72	0.0095* (0.0043)	2.19	0.0009 (0.0006)	1.68
EXPERIENCE	0.0005 (0.0008)	0.63	0.0066 (0.0069)	0.95	0.0006 (0.0008)	0.79
P_INNOVATION	0.032 (0.0268)	1.19	0.295 (0.2403)	1.23	0.0332 (0.0268)	1.24
BP_INNOVATION	0.139*** (0.0333)	4.19	0.898** (0.2751)	3.27	0.140*** (0.0332)	4.22
R&D	0.111*** (0.0218)	5.09	0.771*** (0.1786)	4.32	0.111*** (0.0218)	5.08
F_CAP	0.331*** (0.0297)	11.13	1.958*** (0.2381)	8.22	0.328*** (0.0299)	10.97
MONITOR	-	-	-	-	-	-
TARGET	0.043** 0.018	2.71	-	-	-	-
INCENTIVES	-	-	0.467** (0.1648)	2.83	0.0384** (0.0141)	2.72
Pseudo R2	-		0.0925		-	
R2	0.1940		-		0.1940	
Adj. R2	0.1879		-		0.1879	
Wald	-		154.33***		-	
F	31.80***		-		31.81***	
N	933		933		933	

Notes: Robust standard errors in parentheses; p<0.05, ** p<0.01, *** p<0.001; FL – fractional logit; OLS – OLS regression.
Source: own study based on World Bank (2025) in STATA.

Conceptually, these findings contribute to the literature that views managerial routines as organisational routines that shape how firms mobilize and direct resources in the internationalisation process (Deng *et al.*, 2020; Vardarsuyu *et al.,* 2024). The evidence that even relatively basic, yet formalized practices, such as monitoring performance indicators and explicit targets, and tying incentives to results, are associated with higher export intensity suggests that internationalisation is not solely a function of technological assets or ownership structure, but also of the quality of internal management systems. In line with this view, our results imply that managerial routines act as governance mechanisms through which firms coordinate innovation activities and foreign capital to achieve deeper penetration of international markets, thereby providing empirical support for theoretical arguments that locate the micro-foundations of export performance in everyday management routines (Nguyen & Mort, 2021; Pfajfar *et al.*, 2024; Vardarsuyu *et al.,* 2024).

The results for H1c provide clear evidence that managerial routines were positively associated with firms' digital capacity, measured by firms' online presence (see Table 4). In all three specifications, the odds ratios for MONITOR, TARGET, and INCENTIVES were large and highly significant, even after controlling for firm age, managerial experience, innovation, R&D, and foreign ownership. Firms that monitored performance indicators were about five times more likely to have a website than those that do not (OR = 5.07, z = 8.27, p < 0.001). Simultaneously, target setting and incentives were associated with roughly 2.9-fold and 3.7-fold increases in the odds of digital capacity, respectively (TARGET: OR = 2.92, z = 5.63, $p < 0.001$; INCENTIVES: OR = 3.73, z = 6.80, $p < 0.001$). These results strongly support H1c and suggest that firms with more formalised managerial routines were substantially more likely to build a basic digital presence through a corporate website.

Table 4. Logistic regression (DIGI_WEB)

Variable	Model 7		Model 8		Model 9	
	Odd ratio	z	Odd ratio	z	Odd ratio	z
const.	1.146 (0.3225)	0.48	1.035 (0.3043)	0.12	1.039 (0.2944)	0.14
AGE	1.028** (0.0087)	3.24	1.027*** (0.0083)	3.34	1.028*** (0.0086)	3.30
EXPERIENCE	0.995 (0.0107)	-0.44	1.003 (0.0111)	0.28	1.005 (0.0109)	0.50
P_INNOVATION	1.184 (0.5682)	0.35	1.207 (0.4935)	0.46	1.240 (0.5204)	0.51
BP_INNOVATION	1.924 (1.5503)	0.81	2.254 (1.6443)	1.11	2.275 (1.7465)	1.07
R&D	4.053* (2.6127)	2.17	5.029** (3.0940)	2.63	4.865* (3.0291)	2.54
F_CAP	4.683 (4.1174)	1.76	8.192* (7.5159)	2.29	6.420* (5.7665)	2.07
MONITOR	5.073*** (0.9965)	8.27	-	-	-	-
TARGET	-	-	2.919*** (0.5548)	5.63	-	-
INCENTIVES	-	-			3.733*** (0.7229)	6.80
Wald	90.31***		65.30***		72.17***	
Pseudo R2	0.1485		0.1013		0.1235	
Hosmer-Lemeshow test	8.11 (p=0. 4224)		7.15 (p=0. 5205)		6.35 (p=0. 6082)	
N	933		933		933	

Notes: Robust standard errors in parentheses; p<0.05, ** p<0.01, *** p<0.001.
Source: own study based on World Bank (2025) in STATA.

The pattern of control variables was broadly in line with theoretical expectations about the determinants of digital adoption. Firm age showed a small but positive and significant effect across models (OR around 1.03; model 7: $p < 0.01$; models 8 & 9: $p < 0.001$), indicating that more mature firms are slightly more likely to maintain a website, possibly due to greater resource availability and accumulated organisational experience. By contrast, the top manager's industry experience and innovation did not reach statistical significance, while R&D activity and foreign capital showed sizeable and often significant odds ratios (*e.g.*, R&D: OR between 4 and 5; F_CAP: OR between 6.4 and 8.2, $p < 0.05$), underscoring the role of R&D investments and international ownership ties in enabling digital infrastructure. This configuration implies that managerial routines operate alongside, and in interaction with, broader capability-related factors, rather than replacing them.

Model diagnostics for the DIGI_WEB regressions indicated acceptable fit and proper specification. Pseudo R^2 values ranged from approximately 0.10 to 0.15, and Wald chi-square tests were highly significant in each model ($p < 0.001$), signalling that the set of predictors as a whole provided non-trivial explanatory power beyond the intercept-only model. Hosmer–Lemeshow goodness-of-fit tests were non-significant (p between 0.42 and 0.61), suggesting no major calibration problems, and link tests revealed significant linear prediction but non-significant squared prediction, which was consistent with correctly specified logit functional forms. Areas under the ROC curve around 0.72-0.76 further indicated acceptable discrimination between firms with and without websites. Although the simple 0.5

cut-off yielded perfect sensitivity but zero specificity due to the high prevalence of website use, this was a threshold choice issue rather than a sign of poor model quality. Together, these diagnostics supported the robustness of the positive effects of managerial routines on digital capacity.

Table 5. Logistic regression vs. fractional logit vs. OLS

Variable	Model 10 (INT_LOG)		Model 11 (INT_SHARE)		Model 12 (INT_SHARE)	
	Odd ratio	z	Coeff.	z	Coeff.	t
const.	0.054*** (0.0200)	-7.92	-4.170*** (0.3580)	-11.65	-0.014 (0.0233)	-0.61
AGE	1.010 (0.0059)	1.65	0.0066 (0.0045)	1.45	0.0007 (0.0006)	1.21
EXPERIENCE	1.007 (0.0085)	0.86	0.0079 (0.0068)	1.16	0.0007 (0.0008)	0.88
P_INNOVATION	1.764 (0.5259)	1.90	0.256 (0.2403)	1.07	0.0307 (0.0266)	1.16
BP_INNOVATION	2.414* (0.8503)	2.50	0.900*** (0.2558)	3.52	0.141*** (0.0329)	4.27
R&D	3.400*** (0.7834)	5.31	0.736*** (0.1741)	4.23	0.108*** (0.0216)	5.00
F_CAP	8.880*** (3.3546)	5.78	1.933*** (0.2322)	8.32	0.326*** (0.0295)	11.04
DIGI_WEB	4.746*** (1.4263)	5.18	1.637*** (0.3128)	5.24	0.0815*** (0.0180)	4.54
Wald	121.15***		149.57***		-	
F	-		-		34.13***	
Pseudo R2	0.1392		0.1071		-	
R2	-		-		0.2053	
Adj. R2	-		-		0.1992	
Hosmer-Lemeshow test	7.08 (p=0.5282)		-		-	
N	933		933		933	

Notes: Robust standard errors in parentheses; * p<0.05, ** p<0.01, *** p<0.001.
Source: own study based on World Bank (2025) in STATA.

From a theoretical standpoint, these findings reinforce the view that managerial routines function as governance routines that enable and structure the deployment of digital technologies (Mele *et al.*, 2024; Teece, 2025). The strong associations between monitoring, target setting, and incentives systems and the probability of digital capacity suggest that digital capacity was more likely to emerge in firms where performance is systematically tracked, objectives were made explicit, and incentives were aligned with outcomes (Cosa & Torelli, 2024; Seppänen *et al.*, 2025). Rather than treating digitalisation as an exogenous technological shock, the results present how internal managerial systems condition whether and how basic digital tools are implemented (Röglinger *et al.,* 2022; Soluk *et al.*, 2021; Ye *et al.,* 2024). In this sense, the confirmation of H1c provides a micro-foundational bridge between everyday management practices and the development of digital capabilities that can later support more advanced forms of internationalisation.

Binary logistic regression showed that digital capacity was strongly associated with the likelihood of exporting (see Table 5). Controlling for firm age, managerial experience, innovation, R&D, and foreign ownership, firms with a website were about 4.7 times more likely to be internationalised than firms without one (OR = 4.75, z = 5.18, $p < 0.001$; 95% CI [2.63, 8.55]). Pseudo R^2 of 0.14, a highly significant Wald $\chi^2(7) = 121.15$ ($p < 0.001$), a non-significant Hosmer–Lemeshow test ($p = 0.53$), ROC area of 0.72, and correct classification of 74% indicated acceptable fit and discrimination, supporting the conclusion that digital capacity significantly increases the likelihood of firm internationalisation, in line with H2a.

Table 6. Mediation effect (H3)

Effect/statistics	MONITOR	TARGET	INCENTIVES
Panel A. Mediator model (DIGI_WEB)			
MR → DIGI_WEB	1.624*** (0.196) [z = 8.27]	1.071*** (0.190) [z = 5.63]	1.317*** (0.194) [z = 6.80]
Pseudo R2 (mediator)	0.1485	0.1013	0.1235
Wald chi2 (mediator)	90.31***	65.30***	72.17***
Panel B. Outcome model (INT_LOG)			
DIGI_WEB → INT_LOG	1.273*** (0.308) [z = 4.13]	1.418*** (0.304) [z = 4.67]	1.436*** (0.304) [z = 4.72]
c′: Direct effect of MR → INT_LOG	0.974*** (0.191) [z = 5.11]	0.794*** (0.212) [z = 3.75]	0.447** (0.171) [z = 2.61]
Pseudo R2 (outcome)	0.1624	0.1518	0.1451
Wald chi2 (outcome)	134.22***	133.57***	125.79***
Panel C. Mediation results			
ACME1	0.0447	0.0328	0.0357
95% CI ACME1	[0.0253; 0.0657]	[0.0170; 0.0508]	[0.0209; 0.0526]
ACME0	0.0248	0.0196	0.0273
95% CI ACME0	[0.0133; 0.0385]	[0.0097; 0.0329]	[0.0155; 0.0417]
Direct Effect 1	0.1763	0.1379	0.0835
95% CI Direct Effect 1	[0.1097; 0.2424]	[0.0672; 0.2064]	[0.0205; 0.1476]
Direct Effect 0	0.1565	0.1248	0.0751
95% CI Direct Effect 0	[0.0965; 0.2168]	[0.0606; 0.1870]	[0.0187; 0.1326]
Total Effect	0.2012	0.1576	0.1108
95% CI Total Effect	[0.1390; 0.2629]	[0.0905; 0.2231]	[0.0510; 0.1721]
Average Mediation	0.0348	0.0262	0.0315
95% CI Avg. Mediation	[0.0195; 0.0514]	[0.0138; 0.0413]	[0.0183; 0.0467]
Average Direct Effect	0.1664	0.1314	0.0793
95% CI Avg. Direct Effect	[0.1028; 0.2290]	[0.0636; 0.1959]	[0.0196; 0.1401]
% of total effect mediated	17.26%	16.60%	28.45%
95% CI % mediated	[13.22%; 25.00%]	[11.76%; 28.98%]	[18.28%; 61.57%]
Type of mediation	partial	partial	partial

Notes: MR – Managerial routines (MONITOR, TARGET, INCENTIVES).
Source: own study based on World Bank (2025) in STATA.

The results also support H2b (see Table 5). Digital capacity was positively related to the intensity of internationalisation. In the fractional logit model, DIGI_WEB had a positive and highly significant coefficient (coef = 1.64, z = 5.24, $p < 0.001$), and in the linear specification the corresponding effect was β = 0.08 (t = 4.54, $p < 0.001$), implying that firms with a website, on average, a higher share of foreign sales than firms without one, net of controls. The models showed reasonable explanatory power (pseudo $R^2 = 0.11$ for fractional logit; $R^2 = 0.21$, $F(7{,}925) = 34.13$, $p < 0.001$ for OLS), and low VIF values (mean around 1.08) ruled out multicollinearity concerns. Taken together, these findings indicate that digital capacity is not only associated with the decision to export but also with the depth of firms' engagement in foreign markets, thereby confirming H2b.

For all three practices, there was a statistically significant partial mediation of their effect on export likelihood through DIGI_WEB, so H3 was supported (see Table 6). In the case of MONITOR, the mediator model showed that monitoring strongly increased the probability of having a website (coef = 1.62, $p < 0.001$), and DIGI_WEB, in turn, significantly increased the odds of exporting in the outcome model (coef = 1.27, $p < 0.001$). When DIGI_WEB was included, the direct effect of MONITOR on INT_LOG decreased but remained significant, and the mediation output indicated a positive and statistically significant indirect effect (Average Mediation = 0.035, 95% CI [0.019; 0.051]) with about 17% of the total effect transmitted through the digital channel. This pattern was consistent with partial mediation, in which monitoring affects the likelihood of exports both directly and indirectly through digital capacity. For TARGET and INCENTIVES, the results were analogous. Both practices significantly increased the probability of having a website (TARGET: coef = 1.07, $p < 0.001$; INCENTIVES: coef = 1.32, $p < 0.001$), and DIGI_WEB again had a strong positive effect on INT_LOG in the outcome models. In each case, the mediation analysis yielded a significant average mediation of roughly 0.026 (95% CIs clearly excluding zero) and a significant average direct effect, with about 16-17% of the total effect of TARGET and INCENTIVES on export likelihood mediated by digital capacity. These findings indicate that managerial routines operate partly by building digital capacity -here, the presence of a website – which then facilitates firms' entry into foreign markets, while also exerting an additional direct influence on internationalisation decisions.

CONCLUSIONS

We confirmed all research hypotheses. Based on the analysis, managerial routines operationalised through three variables (MONITOR, TARGET, and INCENTIVES) were positively and statistically significantly associated with internationalisation, both in terms of the probability of its occurrence and its intensity. Therefore, we observed that the firms implementing practices based on performance monitoring, target setting, and granting incentives for achieving production or service provision demonstrate a greater propensity to internationalise. Those managerial routines also influence export intensity, meaning that the more frequently firms apply such practices, the higher the share of foreign sales in total sales. We claim that this relationship holds when accounting for control variables related to firm age, innovation, and R&D activity, as well as the share of foreign owners in the firm's overall ownership structure.

Furthermore, another important conclusion emerging from the analysis is that digital capacity, operationalised through the variable DIGI_WEB, which refers to whether a given firm has a website, plays an important role in the internationalisation process. On the one hand, digital capacity constitutes an important and statistically significant predictor of both the probability of internationalisation and export intensity. On the other hand, it partially mediates the relationship between managerial routines and the probability of exporting. This constitutes important evidence that digital capacity can serve as a mechanism by which internal management systems influence internationalisation outcomes.

The study results provide evidence for managers and policy-makers that establishing monitoring systems and managerial goals, and rewarding employees for achieving them are practices that benefit firms and may differentiate internationalised firms from those operating locally and primarily oriented toward the domestic market.

In the study, we identified several limitations. Firstly, the sample included 933 firms from Poland, meaning that not all firms in this region were examined; we investigated only a relatively small subset. This could have increased the risk of limited representativeness of the sample and of challenges to the replicability of the results. Therefore, further research should focus on increasing the sample size and verify the findings across different geographical contexts, as many managerial decisions are also influenced by the cultural conditions prevailing in a given region. Moreover, the study adopted a static approach, which makes it impossible to verify relationships over a longer time horizon. As is well known, the development of managerial attitudes and actions is dynamic. Therefore, further studies should place greater emphasis on research using panel data models, which capture relationships over time. We also identified another research limitation related to the selection of variables. We analysed the data using variables predefined by the World Bank Enterprise Surveys, which limited our ability to freely operationalise the constructs. Therefore, further studies should consider alternative operationalisations of variables that are more neutral and better reflect the realities of firms.

REFERENCES

Aghazadeh, H., Zandi, F., Amoozad Mahdiraji, H., & Sadraei, R. (2024). Digital transformation and SME internationalisation: unravelling the moderated-mediation role of digital capabilities, digital resilience and digital maturity. *Journal of Enterprise Information Management, 37*(5), 1499-1526. https://doi.org/10.1108/JEIM-02-2023-0092

Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management, 27*(6), 643-650. https://doi.org/10.1177/014920630102700602

Bartosik-Purgat, M., & Rakowska, W. . (2024). Gender in acceptance of augmented reality in e-commerce: An international perspective. *International Entrepreneurship Review*, *10*(4), 113-127. https://doi.org/10.15678/IER.2024.1004.08

Battisti, M., Scott-Kennel, J., & Deakins, D. (2021). A network perspective on foreign entry modes of small knowledge-intensive services firms. *European Journal of Marketing, 55*(7), 1979-2011. https://doi.org/10.1108/EJM-10-2018-0732

Bharadwaj, A. (2000). A Resource-Based Perspective on Information Technology Capability and Firm Performance: An Empirical Investigation1. *MIS Quarterly, 24*(1), 169-196. https://doi.org/10.2307/3250983

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital Business Strategy: Toward a Next Generation of Insights. *MIS Quarterly, 37*(2), 471-482. https://doi.org/10.25300/MISQ/2013/37:2.3

Bianchi, C., & Mathews, S. (2016). Internet marketing and export market growth in Chile. *Journal of Business Research, 69*(2), 426-434. https://doi.org/10.1016/j.jbusres.2015.06.048

Bianchi, C., & Stoian, M.-C. (2024). Exploring the role of managerial and organizational capabilities for the inbound internationalization of small and medium-sized enterprises. *Journal of Small Business Management, 62*(2), 724-762. https://doi.org/10.1080/00472778.2022.2082457

Bigos, K., & Michalik, A. (2023). The role of foreign venture capital and foreign business angels in start-ups' early internationalization: The case of Polish ICT start-ups. *Entrepreneurial Business and Economics Review, 11*(4), 139-153. https://doi.org/10.15678/EBER.2023.110409

Bigos, K., & Michalik, A. (2024). Intellectual capital and new ventures early internationalization: Firm-level analysis of Austrian SMEs. *Entrepreneurial Business and Economics Review, 12*(4), 177-197. https://doi.org/10.15678/EBER.2024.120410

Bloom, N., Brynjolfsson, E., Foster, L., Jarmin, R., Patnaik, M., Saporta-Eksten, I., & Van Reenen, J. (2019). What Drives Differences in Management Practices?. *American Economic Review, 109*(5), 1648-1683. https://doi.org/10.1257/aer.20170491

Bloom, N., Sadun, R., & Van Reenen, J. (2016). *Management as a Technology?* Cambridge, MA. https://doi.org/10.3386/w22327

Bloom, N., & Van Reenen, J. (2007). Measuring and Explaining Management Practices Across Firms and Countries. *The Quarterly Journal of Economics, 122*(4), 1351-1408. https://doi.org/10.1162/qjec.2007.122.4.1351

Brouthers, K. D., Geisser, K. D., & Rothlauf, F. (2016). Explaining the internationalization of ibusiness firms. *Journal of International Business Studies, 47*(5), 513-534. https://doi.org/10.1057/jibs.2015.20

Cavusgil, S. T. (1994). Born globals: a quiet revolution among Australian exporters. *Journal of International Marketing, 2*(3), 4-6. https://doi.org/10.1177/1069031X9400200301

Cennamo, C., Dagnino, G. B., Di Minin, A., & Lanzolla, G. (2020). Managing Digital Transformation: Scope of Transformation and Modalities of Value Co-Generation and Delivery. *California Management Review, 62*(4), 5-16. https://doi.org/10.1177/0008125620942136

Chen, M., Martins, T. S., Zhang, L., & Dong, H. (2025). Digital Transformation in Project Management: A Systematic Review and Research Agenda. *Systems, 13*(8), 625. https://doi.org/10.3390/systems13080625

Chen, Y.-A., Guo, S.-L., & Huang, K.-F. (2024). Antecedents of internationalization of Taiwanese SMEs: a resource-based view. International *Journal of Emerging Markets, 19*(11), 3581-3600. https://doi.org/10.1108/IJOEM-05-2022-0875

Cheng, C., Lin, Y., & Dai, J. (2025). Revisiting the Relationship Between CEO Characteristics and Firm Internationalization: Evidence From a Machine Learning Approach. *Managerial and Decision Economics, 46*(5), 2855-2868. https://doi.org/10.1002/mde.4507

Choczyńska, A., Rani, S., & Tora, J. (2024). Comparison of international digitalisation indexes: A quantitative analysis perspective. *International Entrepreneurship Review*, *10*(2), 25-42. https://doi.org/10.15678/IER.2024.1002.02

Cieślik, A., Michałek, J. J., & Michałek, A. (2024). Does firms and managerial experience matter for exporting? The case of selected EU member and non-member countries. *International Journal of Emerging Markets, 19*(5), 1238-1258. https://doi.org/10.1108/IJOEM-12-2021-1879

Cosa, M., & Torelli, R. (2024). Digital Transformation and Flexible Performance Management: A Systematic Literature Review of the Evolution of Performance Measurement Systems. *Global Journal of Flexible Systems Management, 25*(3), 445-466. https://doi.org/10.1007/s40171-024-00409-9

Cruz-Sánchez, O., Cruz-Cázares, C., & Hernandez-Vivanco, A. (2026). Business model innovation from dynamic capabilities perspective: A systematic literature review. *Journal of Business Research, 204*, 115835. https://doi.org/10.1016/j.jbusres.2025.115835

Daszkiewicz, N., & Wach, K. (2023). Networking and Familiness as Factors Stimulating the Early Internationalization of High-Tech Firms. *Engineering Economics, 34*(5), 554-567. https://doi.org/10.5755/j01.ee.34.5.33855

Deng, P., Delios, A., & Peng, M. W. (2020). A geographic relational perspective on the internationalization of emerging market firms. *Journal of International Business Studies, 51*(1), 50-71. https://doi.org/10.1057/s41267-019-00276-y

Doan, T. N., & Vu, C. T. K. (2024). Managerial practices and firms' environmental performance: An international evidence. *Corporate Social Responsibility and Environmental Management, 31*(6), 6083-6102. https://doi.org/10.1002/csr.2910

Drori, N., Alessandri, T., Bart, Y., & Herstein, R. (2024). The impact of digitalization on internationalization from an internalization theory lens. *Long Range Planning, 57*(1), 102395. https://doi.org/10.1016/j.lrp.2023.102395

Du, J., Zhu, S., & Li, W. H. (2023). Innovation through internationalization: A systematic review and research agenda. *Asia Pacific Journal of Management, 40*(3), 1217-1251. https://doi.org/10.1007/s10490-022-09814-z

Du, X., & Huang, J. (2025). The influence of digital capabilities on the export performance of SMEs: evidence from China. *Asia Pacific Business Review*, 1-26. https://doi.org/10.1080/13602381.2024.2448472

Etemad, H., Wilkinson, I., & Dana, L. P. (2010). Internetization as the necessary condition for internationalization in the newly emerging economy. *Journal of International Entrepreneurship, 8*(4), 319-342. https://doi.org/10.1007/s10843-010-0062-x

Feliciano-Cestero, M. M., Ameen, N., Kotabe, M., Paul, J., & Signoret, M. (2023). Is digital transformation threatened? A systematic literature review of the factors influencing firms' digital transformation and internationalization. *Journal of Business Research, 157*, 113546. https://doi.org/10.1016/j.jbusres.2022.113546

Fernandes, C., Veiga, P. M., & Gerschewski, S. (2023). SME internationalisation: past, present and future trends. *Journal of Organizational Change Management, 36*(1), 144-164. https://doi.org/10.1108/JOCM-05-2022-0146

Fernhaber, S. A., & Li, D. (2013). International exposure through network relationships: Implications for new venture internationalization. *Journal of Business Venturing, 28*(2), 316-334. https://doi.org/10.1016/j.jbusvent.2012.05.002

Fredrich, V., Gudergan, S., & Bouncken, R. B. (2022). Dynamic Capabilities, Internationalization and Growth of Small- and Medium-Sized Enterprises: The Roles of Research and Development Intensity and Collaborative Intensity. *Management International Review, 62*(4), 611-642. https://doi.org/10.1007/s11575-022-00480-3

Freixanet, J., & Renart, G. (2020). A capabilities perspective on the joint effects of internationalization time, speed, geographic scope and managers' competencies on SME survival. *Journal of World Business, 55*(6), 101110. https://doi.org/10.1016/j.jwb.2020.101110

Garncarz, J., & Michalik, A. (2025). The role of innovation in the internationalisation process of Slovakian businesses. *International Entrepreneurship Review, 11*(2), 71-81. https://doi.org/10.15678/IER.2025.1102.04

Gaweł, A., Mroczek-Dąbrowska, K., & Pietrzykowski, M. (2023). Digitalization and Its Impact on the Internationalization Models of SMEs. In R. Adams, D. Grichnik, A. Pundziene, & C. Volkmann (Eds.), *Artificiality and Sustainability in Entrepreneurship. FGF Studies in Small Business and Entrepreneurship* (pp. 19-40). Cham: Springer. https://doi.org/10.1007/978-3-031-11371-0_2

Głodowska, A., Maciejewski, M., & Wach, K. (2023). Navigating the digital landscape: A conceptual framework for understanding digital entrepreneurship and business transformation. *International Entrepreneurship Review, 9*(4), 7-20. https://doi.org/10.15678/IER.2023.0904.01

Gomes, J. M., Carvalho, F., Alves, A., & Cabral, Â. (2025). Dynamic managerial capabilities' impact on international overall performance. *Revista de Administração de Empresas, 65*(6), 1-26. https://doi.org/10.1590/s0034-759020250605

Gorynia, M., Nowak, J., Trąpczyński, P., & Wolniak, R. (2024). What drives export resilience? The case of post-transition country firms in the context of the COVID-19 pandemic. *Entrepreneurial Business and Economics Review, 12*(1), 119-133. https://doi.org/10.15678/EBER.2024.120107

Hanelt, A., Bohnsack, R., Marz, D., & Antunes Marante, C. (2021). A Systematic Review of the Literature on Digital Transformation: Insights and Implications for Strategy and Organizational Change. *Journal of Management Studies, 58*(5), 1159-1197. https://doi.org/10.1111/joms.12639

Held, P., Heubeck, T., & Meckl, R. (2025). Boosting SMEs' digital transformation: the role of dynamic capabilities in cultivating digital leadership and digital culture. *Review of Managerial Science*, *20*, 1687-1715. https://doi.org/10.1007/s11846-025-00919-5

Heubeck, T. (2023). Managerial capabilities as facilitators of digital transformation? Dynamic managerial capabilities as antecedents to digital business model transformation and firm performance. *Digital Business, 3*(1), 100053. https://doi.org/10.1016/j.digbus.2023.100053

Hoblos, N., Sandeep, M., & Pan, S. L. (2024). Achieving stakeholder alignment in digital transformation: A frame transformation perspective. *Journal of Information Technology, 39*(4), 630-649. https://doi.org/10.1177/02683962231219518

Jercan, E., & Nacu, T. (2024). The Role of Management/Manager Practices in the Process of Internationalization of SMEs. *Economic Studies (Ikonomicheski Izsledvania), 33*(3), 112-127.

Jiang, Y., & Wang, X. (2024). Digital transformation, innovation capability and speed of internationalization. *Finance Research Letters, 67*, 105448. https://doi.org/10.1016/j.frl.2024.105448

Johanson, J., & Vahlne, J.-E. (1974). The internationalization Process of the Firm. In *Mimeographed Working Paper*. Uppsala: Department of Business Administration.

Johanson, J., & Vahlne, J.-E. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of International Business Studies, 40*(9), 1411-1431. https://doi.org/10.1057/jibs.2009.24

Kamal, Y. (2024). The impact of management practices on export margins of firms: evidence from a recent Egyptian industrial survey. *African Journal of Economic and Management Studies, 15*(3), 534-556. https://doi.org/10.1108/AJEMS-08-2023-0310

Kastelli, I., Dimas, P., Stamopoulos, D., & Tsakanikas, A. (2024). Linking Digital Capacity to Innovation Performance: the Mediating Role of Absorptive Capacity. *Journal of the Knowledge Economy, 15*(1), 238-272. https://doi.org/10.1007/s13132-022-01092-w

Kaur, K., & Kumar, S. (2026). Resource-based view and SME internationalization: a systematic literature review of resource optimization for global growth. *Management Review Quarterly, 76*(1), 17-59. https://doi.org/10.1007/s11301-024-00478-1

Kautish, P., Sarangi, S., Lan, S., Mehrotra, A., & Simillidou, A. (2025). Integrating SMEs market and technology orientation: an exploration of digital technological opportunism, agility, future focus and performance. *International Marketing Review, 42*(4), 743-766. https://doi.org/10.1108/IMR-03-2024-0073

Kemp, A. (2024). Competitive Advantage Through Artificial Intelligence: Toward a Theory of Situated AI. *Academy of Management Review, 49*(3), 618-635. https://doi.org/10.5465/amr.2020.0205

Lamorgese, A., Patnaik, M., Linarello, A., & Schivardi, F. (2024). Management Practices and Resilience to Shocks: Evidence from COVID-19. *Management Science, 70*(12), 9058-9072. https://doi.org/10.1287/mnsc.2021.01341

Lee, H., Liu, H.-W., & Chang, C.-W. (2025). Digitalization and international markets: integrating intellectual capital, big data analytic capability and digital business and marketing capability. *Journal of Intellectual Capital, 26*(5), 1146-1165. https://doi.org/10.1108/JIC-09-2024-0261

Li, G., Zhang, C., & Hu, L. (2025). How Can Enterprise Digital Transformation Facilitate Internationalization?. *Sage Open, 15*(3). https://doi.org/10.1177/21582440251346204

Li, N., Wang, X., & Zhang, S. (2023). Effects of digitization on enterprise growth performance: Mediating role of strategic change and moderating role of dynamic capability. *Managerial and Decision Economics, 44*(2), 1040-1053. https://doi.org/10.1002/mde.3730

Liu, Y., Wang, Y., Savastano, M., Tan, K., & Yao, B. (2025). Regional digital infrastructure and firm internationalization: evidence from the Broadband China strategy. *Applied Economics*, 1-16. https://doi.org/10.1080/00036846.2025.2590615

Mainela, T., Puhakka, V., & Servais, P. (2014). The Concept of International Opportunity in International Entrepreneurship: A Review and a Research Agenda. *International Journal of Management Reviews, 16*(1), 105-129. https://doi.org/10.1111/ijmr.12011

Martín Martín, O., Chetty, S., & Bai, W. (2022). Foreign market entry knowledge and international performance: The mediating role of international market selection and network capability. *Journal of World Business, 57*(2), 101266. https://doi.org/10.1016/j.jwb.2021.101266

Mele, G., Capaldo, G., Secundo, G., & Corvello, V. (2024). Revisiting the idea of knowledge-based dynamic capabilities for digital transformation. *Journal of Knowledge Management, 28*(2), 532-563. https://doi.org/10.1108/JKM-02-2023-0121

Meyer, K. E., Li, J., Brouthers, K. D., & Jean, R.-J. '"Bryan."' (2023). International business in the digital age: Global strategies in a world of national institutions. *Journal of International Business Studies, 54*(4), 577-598. https://doi.org/10.1057/s41267-023-00618-x

Milka, P., & Garncarz, J. (2025). Standardisation versus adaptation in international marketing of Polish companies operating in foreign markets: The case of Maspex. *International Entrepreneurship Review, 11*(1), 57-67. https://doi.org/10.15678/IER.2025.1101.04

Monaghan, S., Tippmann, E., & Coviello, N. (2020). Born digitals: Thoughts on their internationalization and a research agenda. *Journal of International Business Studies, 51*(1), 11-22. https://doi.org/10.1057/s41267-019-00290-0

Moreno-Menéndez, A. M. (2018). Co-evolution of innovation cooperation activities and internationalisation through exports. *Innovation, 20*(4), 353-376. https://doi.org/10.1080/14479338.2018.1502611

Muzychenko, O., & Liesch, P. W. (2015). International opportunity identification in the internationalisation of the firm. *Journal of World Business, 50*(4), 704-717. https://doi.org/10.1016/j.jwb.2014.12.001

Nguyen, Q. A., & Mort, G. S. (2021). Conceptualising organisational-level and microfoundational capabilities: an integrated view of born-globals' internationalisation. *International Entrepreneurship and Management Journal, 17*(4), 1781-1803. https://doi.org/10.1007/s11365-020-00662-1

Nunes, M. P., Malagri, C. N. A., Steinbruch, F. K., Schreiber, D., & Damacena, C. (2025). The relation between digital transformation and internationalization – a systematic literature review. *European Journal of Innovation Management, 28*(8), 3217-3237. https://doi.org/10.1108/EJIM-01-2024-0092

O'Cass, A., & Weerawardena, J. (2009). Examining the role of international entrepreneurship, innovation and international market performance in SME internationalisation. *European Journal of Marketing, 43*(11/12), 1325-1348. https://doi.org/10.1108/03090560910989911

Oviatt, B. M., & McDougall, P. P. (1994). Toward a Theory of International New ventures. *Journal of International Business Studies, 25*(1), 45-64. https://doi.org/10.1057/palgrave.jibs.8490193

Penrose, E. T. (1959). *The Growth of the Firm*. New York: Wiley.

Pfajfar, G., Mitręga, M., & Shoham, A. (2024). Systematic review of international marketing capabilities in dynamic capabilities view – calibrating research on international dynamic marketing capabilities. *International Marketing Review, 41*(1), 237-272. https://doi.org/10.1108/IMR-12-2022-0276

Pitelis, C. N., & Teece, D. J. (2010). Cross-border market co-creation, dynamic capabilities and the entrepreneurial theory of the multinational enterprise. *Industrial and Corporate Change, 19*(4), 1247-1270. https://doi.org/10.1093/icc/dtq030

Pocztowski, A., & Pauli, U. (2023). Talent management practices and the performance of firms: Evidence from Polish SMEs. *Entrepreneurial Business and Economics Review, 11*(4), 155-169. https://doi.org/10.15678/EBER.2023.110410

Popli, M., Ahsan, F. M., & Mukherjee, D. (2022). Upper echelons and firm internationalization: A critical review and future directions. *Journal of Business Research, 152*, 505-521. https://doi.org/10.1016/j.jbusres.2022.07.048

Puchalska, K., Majka, A., & Żegleń, P. (2025). Barriers to the foreign expansion of small and medium enterprises: Example of Subcarpathian exporters. *International Entrepreneurship Review*, *11*(3), 179-192. https://doi.org/10.15678/IER.2025.1103.08

Rašković, M. (Matt), & Daminova, N. (2025). Ready, steady, who do we know? Internationalization intent among emerging market SMEs in Central Asia. *International Entrepreneurship Review, 11*(1), 7-22. https://doi.org/10.15678/IER.2025.1101.01

Röglinger, M., Plattfaut, R., Borghoff, V., Kerpedzhiev, G., Becker, J., Beverungen, D., … Trkman, P. (2022). Exogenous Shocks and Business Process Management. *Business & Information Systems Engineering, 64*(5), 669-687. https://doi.org/10.1007/s12599-021-00740-w

Ruzzier, M., Hisrich, R. D., & Antoncic, B. (2006). SME internationalization research: past, present, and future. *Journal of Small Business and Enterprise Development, 13*(4), 476-497. https://doi.org/10.1108/14626000610705705

Sánchez Pulido, L., Moreno Gené, J., & Gallizo Larraz, J. L. (2022). Internationalization of family firms: the effect of CEO attributes. *Journal of Management and Governance, 26*(4), 1123-1154. https://doi.org/10.1007/s10997-021-09597-3

Sánchez-Monterrosa, D. M., & Del Rio Cortina, J. L. (2025). The strategic impact of top management teams on business internationalization: a bibliometric review. *Cogent Business & Management, 12*(1). https://doi.org/10.1080/23311975.2025.2574548

Schmeisser, B., Saebi, T., Schotter, A. P. J., & Gooderham, P. (2026). The digital transformation of international business: A conceptualization, multidisciplinary review, and research agenda. *Journal of World Business, 61*(1), 101695. https://doi.org/10.1016/j.jwb.2025.101695

Seppänen, S., Ukko, J., & Saunila, M. (2025). Understanding determinants of digital transformation and digitizing management functions in incumbent SMEs. *Digital Business, 5*(1), 100106. https://doi.org/10.1016/j.digbus.2025.100106

Shen, T., & Badulescu, A. (2025). Managerial Capabilities and the Internationalization Process of Small and Medium Enterprises: The Sustainable Role of Risk and Resource Management. *Sustainability, 17*(15), 6943. https://doi.org/10.3390/su17156943

Singh, P., Anand, A., Shet, S., & Cretu, O. (2026). The role of digital transformation in the internationalization process – a synthesis and way forward. *International Marketing Review, 43*(1), 124-155. https://doi.org/10.1108/IMR-10-2024-0422

Sobczak, E., Pełka, M., & Pokorska, K. (2026). Barriers to digital transformation of high and medium high tech global manufacturing enterprises in Poland. *Technological and Economic Development of Economy, 32*(2), 1-39. https://doi.org/10.3846/tede.2026.25217

Soluk, J., Kammerlander, N., & De Massis, A. (2021). Exogenous shocks and the adaptive capacity of family firms: exploring behavioral changes and digital technologies in the COVID-19 pandemic. *R&D Management, 51*(4), 364-380. https://doi.org/10.1111/radm.12471

Sous Atari, S., Sadeq, T., & Hassan, Y. (2025). Does firm age moderate the relationship between board attributes and corporate social responsibility? Evidence from Palestine. *Journal of Financial Reporting and Accounting*, *ahead-of-print.* https://doi.org/10.1108/JFRA-08-2024-0538

Stoian, M.-C., Rialp, J., & Dimitratos, P. (2017). SME Networks and International Performance: Unveiling the Significance of Foreign Market Entry Mode. *Journal of Small Business Management, 55*(1), 128-148. https://doi.org/10.1111/jsbm.12241

Surdu, I., Greve, H. R., & Benito, G. R. G. (2021). Back to basics: Behavioral theory and internationalization. *Journal of International Business Studies, 52*(6), 1047-1068. https://doi.org/10.1057/s41267-020-00388-w

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal, 28*(13), 1319-1350. https://doi.org/10.1002/smj.640

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning, 51*(1), 40-49. https://doi.org/10.1016/j.lrp.2017.06.007

Teece, D. J. (2025). The multinational enterprise, capabilities, and digitalization: governance and growth with world disorder. *Journal of International Business Studies, 56*(1), 7-22. https://doi.org/10.1057/s41267-024-00767-7

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509-533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7%3C509::AID-SMJ882%3E3.0.CO;2-Z

Tsai, H. T., & Eisingerich, A. B. (2010). Internationalization strategies of emerging markets firms. *California Management Review, 53*(1), 114-135. https://doi.org/10.1525/cmr.2010.53.1.114

Valentowitsch, J., Kianpour, F., Fritz, T., & Burr, W. (2024). Doing Business in the Digital Age: Towards an Adjusted Resource-Based Model. *Journal of Competences, Strategy & Management, 12*, 1-22.

Vardarsuyu, M., Spyropoulou, S., Menguc, B., & Katsikeas, C. S. (2024). Managers' process thinking skills, dynamic capabilities and performance in export ventures. *International Marketing Review, 41*(1), 302-332. https://doi.org/10.1108/IMR-10-2022-0224

Wach, K. (2016). Innovative Behaviour of High-Tech Internationalized Firms: Survey Results from Poland. *Entrepreneurial Business and Economics Review, 4*(3), 153-165. https://doi.org/10.15678/EBER.2016.040311

Wach, K., & Daszkiewicz, N. (2023). Role of research and development in internationalization of high-tech firms: Empirical results from Poland. *Journal of International Studies, 16*(4), 245-256. https://doi.org/10.14254/2071-8330.2023/16-4/16

Wach, K., Maciejewski, M., & Głodowska, A. (2022). U-shaped relationship in international entrepreneurship: Entrepreneurial orientation and innovation as drivers of internationalisation of firms. *Technological and Economic Development of Economy, 28*(4), 1044-1067. https://doi.org/10.3846/tede.2022.16690

Wai, K. W., Liston-Heyes, C., Liu, W., Liu, G., & Cowling, M. (2022). Organizational capabilities and SME exports: the moderating role of external funding intentions and managerial capacity. *Small Business Economics, 58*(1), 247-261. https://doi.org/10.1007/s11187-020-00408-x

Witek-Hajduk, M. K., & Grudecka, A. (2024). Cross-border e-shopping on e-commerce B2C multi-sided digital platforms: Antecedents and moderating role of country of location. *Entrepreneurial Business and Economics Review, 12*(4), 135-156. https://doi.org/10.15678/EBER.2024.120408

Woo, H. (2020). Foreign venture capital firms and internationalization of ventures. *Multinational Business Review, 28(*3), 381-399. https://doi.org/10.1108/MBR-09-2019-0104

World Bank. (2025). World Bank Enterprise Surveys.

Wrede, M., Velamuri, V. K., & Dauth, T. (2020). Top managers in the digital age: Exploring the role and practices of top managers in firms' digital transformation. *Managerial and Decision Economics, 41*(8), 1549-1567. https://doi.org/10.1002/mde.3202

Ye, F., Ke, M., Ouyang, Y., Li, Y., Li, L., Zhan, Y., & Zhang, M. (2024). Impact of digital technology usage on firm resilience: a dynamic capability perspective. *Supply Chain Management: An International Journal, 29*(1), 162-175. https://doi.org/10.1108/SCM-12-2022-0480

Yordanova, D., Dana, L.-P., Manolova, T. S., & Pergelova, A. (2024). Digital Technologies and the Internationalization of Small and Medium-Sized Enterprises. *Sustainability, 16*(7), 2660. https://doi.org/10.3390/su16072660

Zahra, S. A., Korri, J. S., & Yu, J. (2005). Cognition and international entrepreneurship: implications for research on international opportunity recognition and exploitation. *International Business Review, 14*(2), 129-146. https://doi.org/10.1016/j.ibusrev.2004.04.005

Authors

The authors' contribution shares are equal at 50% each.

Krystian Bigos (corresponding author)

Assistant Professor at Krakow University of Economics, Department of International Trade at the College of Economics and Finance. His research interests include early and rapid internationalisation, international start-ups, international entrepreneurship, and digital transformation of international enterprises.

Correspondence to: Krystian Bigos, PhD, Department of International Trade, Krakow University of Economics, ul. Rakowicka 27, 31-510 Kraków, Poland, e-mail: bigosk@uek.krakow.pl

ORCID https://orcid.org/0000-0001-6030-4119

Paweł Milka

Teaching and Research Assistant at Krakow University of Economics, College of Economics and Finance. His research interests include international financial markets, investments, hedging instruments, international transport, and international e-business.

Correspondence to: mgr Paweł Milka, Krakow University of Economics, ul. Rakowicka 27, 31-510 Kraków, Poland, e-mail: milkap@uek.krakow.pl

ORCID https://orcid.org/0000-0002-6276-7587

Acknowledgements and Financial Disclosure

The publication was co-financed/financed from the subsidy granted to the Krakow University of Economics – Project no. 029/EEZ/2025/POT.

Use of Artificial Intelligence

The authors declare that no generative AI tools were used in the preparation of this manuscript, except for language proofreading (translation, grammar, and spell-checking) performed with Grammarly.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Copyright and License