

Mueller, Marius; Swoboda, Bernhard

Article — Published Version

Effects of International E-Commerce Firms' Depth versus Breadth of Control on Foreign Sales Performance and the Role of Market Size and Growth as Context Factors

Management International Review

Provided in Cooperation with:

Springer Nature

Suggested Citation: Mueller, Marius; Swoboda, Bernhard (2025) : Effects of International E-Commerce Firms' Depth versus Breadth of Control on Foreign Sales Performance and the Role of Market Size and Growth as Context Factors, Management International Review, ISSN 1861-8901, Springer, Berlin, Heidelberg, Vol. 65, Iss. 2, pp. 275-304, <https://doi.org/10.1007/s11575-025-00570-y>

This Version is available at:

<https://hdl.handle.net/10419/323562>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<http://creativecommons.org/licenses/by/4.0/>



Effects of International E-Commerce Firms' Depth versus Breadth of Control on Foreign Sales Performance and the Role of Market Size and Growth as Context Factors

Marius Mueller¹ · Bernhard Swoboda¹

Received: 10 October 2024 / Revised: 15 January 2025 / Accepted: 20 January 2025 /

Published online: 19 March 2025

© The Author(s) 2025

Abstract

E-commerce firms (ECFs) are known to internationalize digitally but may also opt for high international control in terms of depth (i.e., by choosing fully controlled operation modes to enable local offers and management) or breadth (i.e., through a subsidiary network to scale their business model and supply chain). Surprisingly, little is known about the role of ECFs' international control decisions in foreign performance or how these decisions are affected by dynamic e-commerce market contexts. To address these gaps, the authors explore the effects of ECFs' depth and breadth of control on foreign sales performance and the role of local e-commerce market size and growth as context factors. They refer to unique secondary data on 1,144 control decisions by 184 leading ECFs over time and apply multilevel modeling. The results show that ECFs generally improve foreign sales performance by choosing both higher depth and breadth of international control. However, these firms face trade-offs because both decisions affect performance differently and market growth moderates the effects positively and negatively. This allows direct implications for firms expanding digitally abroad but possibly struggling with sales performance.

Keywords E-Commerce firms · Foreign sales performance · Degree of control · Market size · Market growth · Multilevel modeling

1 Introduction

The rise of international e-commerce firms (ECFs) that sell physical goods via a virtual presence in country-specific online shops and marketplaces has supposedly reduced the need for physical presence abroad (Batsakis et al., 2023a; Brouthers et al., 2022). In practice, however, Amazon, Zalando, or Rakuten added a physical

✉ Bernhard Swoboda
b.swoboda@uni-trier.de

¹ Trier University, Trier, Germany

presence within markets to improve customer service and across markets to gain scale effects. Amazon (2024), for example, set up local services and scaled its network of wholly owned subsidiaries (WOS) across 21 larger e-commerce markets with modest growth. In contrast, ASOS, About You, or Trendyol are successful with relatively little local control (Meyer et al., 2023). About You (2021), for example, has WOS in only two growing e-commerce markets. It is unclear which ECFs achieve higher foreign sales performance and whether integrating a physical presence within a market or scaling it across markets increases performance (e.g., Batsakis et al., 2023b). A higher (vs. lower) depth of control within a country enables the implementation of locally adapted offers or quick delivery (Eduardsen et al., 2023), whereas a higher (vs. lower) breadth of control enables the global scaling of ECFs' offers or management (Batsakis et al., 2023a). Little is known about important e-commerce market contexts that reflect critical local demand or growth opportunities and may affect ECFs' control decisions. Therefore, the focus of our study is on the international depth and breadth of control effects on foreign sales performance and moderations of local e-commerce market size and growth.

Previous empirical studies have analyzed the effects of both depth and breadth of control on performance separately for manufacturing firms (e.g., meta-analyses by Giachetti et al., 2019; Kirca et al., 2011, 2012; Wan et al., 2023). For international commerce firms with business models similar to ECFs, few studies show inconclusive results for performance (e.g., positive or negative for high control within markets, Gielens & Dekimpe, 2001; Evans et al., 2008; negatively or positively S-shaped for high breadth of control, Chan et al., 2011; Dimitrova et al., 2019). With respect to ECFs, only three studies address international performance effects (of marketing tactics, market creation, or capabilities, Goldman et al., 2021; Tolstoy et al., 2022; 2023), but only one considers host country contexts (internet penetration on export effects, Eduardsen et al., 2023). No study has considered the effects of international control in terms of depth or breadth on ECFs' foreign sales performance or important market contexts (conceptually, Hånell et al., 2020), although scholars strongly call for research on the performance of important ECFs (e.g., Ipsmiller et al., 2022; Swoboda & Sinning, 2022).

Surprising research gaps exist in the current IB literature on digital firms' control decisions and performance. Scholars see a need for new studies due to the rise of ECFs and their virtual presence (Cumming et al., 2023; Gong et al., 2024). Studies of the mechanisms behind "space-place relationships" are lacking but important, as firms face the risk of over-reliance on virtual presence (Sinkovics et al., 2013; Stallkamp et al., 2023). The benefits of control may also depend on the size or growth of local e-commerce markets as two indicators for assessing market potential ("must know", Kishore et al., 2004; Schu & Morschett, 2017). In this study, two research questions are proposed: Whether and how strongly does ECFs' higher (vs. lower) international control in terms of depth versus breadth drive ECFs' foreign sales performance? How do host countries' e-commerce market size and growth moderate these effects? This study offers two contributions to literature.

Regarding the first research question, we contribute to the IB literature on the importance of ECFs' control decisions for foreign performance in general and contrast the effects of depth versus breadth of control and thus possible

trade-offs. These decisions have only been studied separately (e.g., Miller et al., 2016), although the trade-offs of local and central decision-making or mature and growing markets are crucial in commerce (e.g., Swoboda & Elsner, 2013). We revisit three theories to explain performance through control that have recently been adapted to digital firms by challenging the impact of ECFs' physical control on performance (e.g., Cumming et al., 2023; Meyer et al., 2023). From an *internationalization process* view, digital firms' virtual presence requires no physical investments in countries and enables rapid market entry, digital learning, and scale (Birkinshaw, 2022; Monaghan et al., 2020). Their internationalization and foreign direct investments (FDI) have been argued to be less path dependent, requiring less control (Nambisan & Luo, 2022, p. 132). However, the latter may still be critical for ECFs' business model and local adaptation (Surana et al., 2024; Swoboda & Sinning, 2022). From a *network perspective*, virtual presence is defined by low embeddedness in local networks and exploitation of digital relationships (Brouthers et al., 2022). While offline firms rely on subsidiary networks within and across markets, ECFs may scale and leverage online networks to drive foreign sales without a physical presence (Batsakis et al., 2023a). However, digital firms still opt for a physical presence in important markets to leverage local relationships, which may be more critical than leveraging online networks (e.g., Stallkamp et al., 2023). ECFs' digital nature also implies a reassessment of *dynamic capabilities* and being "global by default" (Meyer et al., 2023). Such capabilities enable basic adaptation within and can be scaled digitally across countries to increase sales. However, ECFs risk falling into a "virtuality trap" (i.e., overreliance on virtual capabilities/presence only, Surana et al., 2024) and failing to adapt or transfer offers and services (Batsakis et al., 2023a; Sinkovics et al., 2013). Research assumes that virtual presence may obviate the need for physical presence to be successful, while we elucidate whether control of physical presence in general contributes to success and whether potential trade-offs arise within or across countries.

Regarding the second research question, we contribute to the IB literature as an initial longitudinal study considering cross-level interactions of international control effects with the local e-commerce market context by addressing calls for overlooked e-commerce-specific contextual differences (e.g., Eduardsen et al., 2023; Meyer et al., 2023). We view ECFs' internationalization depending on its context and argue that ECFs' advantages in terms of depth or breadth of control depend on the local e-commerce market size and growth (e.g., Kishore et al., 2004). The latter defines the foreign sales potential of ECFs by reflecting local customer demand and market dynamics. We argue that both size and growth affect the advantages of both control decisions differently, which may entail a further trade-off. Market size may increase the learning benefits that ECFs can derive from local supply chains within countries (e.g., to provide local customer services) or may harm transfer across countries to scale assortments (e.g., due to procurement network coordination; Tolstoy et al., 2016; Wang et al., 2012). Market growth may limit the benefits of local control, as ECFs face learning barriers due to volatile market conditions, but it may also increase opportunities for ECFs to scale the business model across markets. In the latter case, they may benefit from local FDI incentives that increase mutual learning,

access to distribution networks, or capability integration (e.g., Agarwal & Wu, 2015).

2 Conceptual Framework and Hypotheses

2.1 Conceptualization and Theory

We conceptualize *foreign sales performance* as an important outcome of ECFs' international decisions (e.g., Colton et al., 2010; Gregory et al., 2019; Tolstoy et al., 2016). ECFs and commerce firms refer to foreign sales as important industry benchmarks, e.g., when identifying and competing with competitors (e.g., Hånell et al., 2020). Further performance measures such as profitability or return on assets vary by commercial sector and are available for public firms only, while most ECFs are not required to report such data (Swoboda & Sinning, 2022). We argue that foreign sales directly relate to ECFs' efforts to improve offers and management within countries with WOS (control depth) or to achieve cross-national network synergies between WOS (control breadth).

We conceptualize the depth and breadth of ECFs' internationalization, as is common in the literature (e.g., Miller et al., 2016). As mentioned, the level of control is relevant to ECFs' business model, which is based on learning from virtual presence, electronic networks, and digital market capabilities (Cumming et al., 2023; Eduardsen et al., 2023) but also requires local adaptation and distribution networks to ensure delivery or service quality (Batsakis et al., 2023a; Tolstoy et al., 2021). We address potential trade-offs of control within and across markets (e.g., contrasting foreign sales intensity, Elbanna et al., 2024) that are generally faced by international commerce firms (Swoboda & Elsner, 2013).

ECFs' *depth of international control* reflects the degree of hierarchical control over local operations, supply chains, and management within a host country. It is conceptualized on the basis of ECFs' usual virtual presence (e.g., passive or active) and traditional physical presence modes (e.g., alliances or WOS), representing degrees of control and enabling capabilities to be learned and transferred through different degrees of local embeddedness (Brouthers et al., 2022; Ipsmiller et al., 2022). Initially, ECFs can be present in a foreign market through a country-specific website (e.g., Brouthers et al., 2022) and thus through indirect/passive or direct/active exports (e.g., Sinkovics et al., 2013). The former represents the lowest degree of local control, as ECFs' websites are largely home country-centered (i.e., dot-com or dot-com/uk). The latter includes elements of adaptation in terms of the locally registered domain, language, and currency (e.g., dot-uk; Swoboda & Sinning, 2022). While dot-com/uk domains offer global reach but low control with a standardized virtual presence, local domains offer more control but must comply with local legal requirements and domain management costs (e.g., Ipsmiller et al., 2022). Both present a low-risk entry strategy and allow ECFs to learn about customers online and leverage electronic networks or digital capabilities at low costs. However, both virtual presences allow limited control of product delivery and customer service quality, which limits ECFs' ability to respond to the local context. Cooperative modes

(e.g., alliances) allow for more control over operational elements of the supply chain via contracts (seen as traditional options of physical presence, Brouthers et al., 2022). Typical for ECFs are partly controlled contractual partnerships or strategic alliances with local goods suppliers or service providers (Benmamoun et al., 2019). These range from low operational control, in which partners adhere to contractual obligations, to high operational control in ECFs' own warehouses, which are operated by logistics partners (Hua & Wu, 2024). Cooperation offers potential benefits of learning, network access, complementary assets and capabilities or the shared risk of the external context (Cha et al., 2023). Depending on how much control an ECF maintains through governance mechanisms, firms may face complex coordination challenges (Kishore et al., 2004). WOS, as a long-term investment in physical assets, allows for local management, services, and adaptation to consumer needs based on ECFs' experience. It offers full strategic and operational control of virtual and physical presence, which allows local operations and supply chain networks to replicate capabilities in foreign markets, fully adapt offers (e.g., assortments, promotions, Tolstoy et al., 2022) and achieve full control over service quality (e.g., next-day delivery, Hua & Wu, 2024). However, ECFs face high initial costs, operational risks, and different external contexts (Fleury et al., 2024).

Theoretically, we expect that despite ECFs' rapid online internationalization process, greater depth of control within countries remains path dependent over time and requires local business networks and capabilities to realize successful local adaptation (Swoboda & Sinning, 2022). ECFs' performance abroad is especially affected by high (vs. low) depth of control; otherwise, ECFs' requirements for critical adaptation for commerce firms cannot be met (Batsakis et al., 2023a; Tolstoy et al., 2016).

ECFs' *breadth of international control* refers to firms' level of control across host markets and the potential for economies of scale, distribution networks, and synergies (e.g., Fleury et al., 2024). We conceptualize breadth as ECFs' full international strategic and operational control across countries on the basis of their network of WOS. Like offline commerce firms, ECFs rely on managing complex cross-national supply chain operations to ensure efficient delivery, maintain high-quality service, and adapt to local market contexts (e.g., Hua & Wu, 2024). Unlike the international breadth of virtual presence, which captures only ECFs' digital operations and intangible assets (Tolstoy et al., 2016), ECFs' subsidiary network captures the combined scale benefits of virtual and physical presence. The latter captures the international scaling of ECFs' strategic and operational control and signals long-term commitment to a host country network and local stakeholders. Additionally, ECFs may benefit from cross-country synergies by leveraging their subsidiary network as regional hubs (Schu & Morschett, 2017; Schu et al., 2016).

Theoretically, we expect that while ECFs' virtual presence and learning can be used to scale across online markets (Mithani, 2023), they require a physical network of subsidiaries and cross-country capabilities to realize network synergies (Batsakis et al., 2023a). We assume that ECFs' foreign sales performance is affected by a higher breadth of control; otherwise, ECFs face increasing but critical coordination issues that may corrupt sales (Hua & Wu, 2024).

We conceptualize local e-commerce market size and growth as critical market contexts for ECFs that reflect customer demand, market dynamics, and e-commerce

infrastructure (Dong et al., 2024; Schu & Morschett, 2017). Market size offers direct contact with a large customer base and demand for additional services or local networks for adaptation, although managing an increasing number of such markets may become complex (Chan et al., 2011). Market growth offers opportunities for scaling subsidiary networks or cross-country synergies (e.g., Kishore et al., 2004), but it may constrain ECFs' local adaptation due to market volatility. Thus, ECFs may face another trade-off, as the local market context may limit performance depending on ECFs' control decisions in terms of depth versus breadth.

E-commerce *market size*, as a critical context for ECFs, reflects the local customer base and potential for additional offers or higher returns (Rothaermel et al., 2006; Schu & Morschett, 2017). ECFs may achieve higher sales by introducing local services (Batsakis et al., 2023a). Amazon or Zalando, for example, have high control within and across markets in developed e-commerce markets to enable next-day delivery, local assortments, or management (Janjevic & Winkenbach, 2020).

Theoretically, we expect that market size affects ECFs' international control over time, i.e., their learning, network management, and capability transfer. While ECFs can better leverage higher control in large markets for adaptation, additional FDI across such markets may limit the scale benefits of greater breadth due to high complexity (Tolstoy et al., 2016).

Market growth, as a critical context, reflects market dynamics particularly relevant for ECFs' risk of control in a country (Wan et al., 2023) versus opportunities for growth (Cumming et al., 2023). While ECFs such as ASOS or Shein prefer virtual presence in growing markets, JD.com and About You invest across such markets. The volatility of growing markets may affect ECFs' control (Chan et al., 2011) but presents opportunities to scale the supply chain.

Theoretically, we assume that market growth influences the effects of higher control differently than market size does (Kishore et al., 2004). While rapidly growing markets can complicate the successful implementation of services (Janjevic & Winkenbach, 2020), we argue that ECFs can gain opportunities for network synergies across such markets.

Figure 1 depicts our conceptual framework.

Next, we derive hypotheses for each relationship based on theoretical rationales and clarify our current empirical knowledge. We consider a usual time lag of one year between the control decision and performance because such relationships

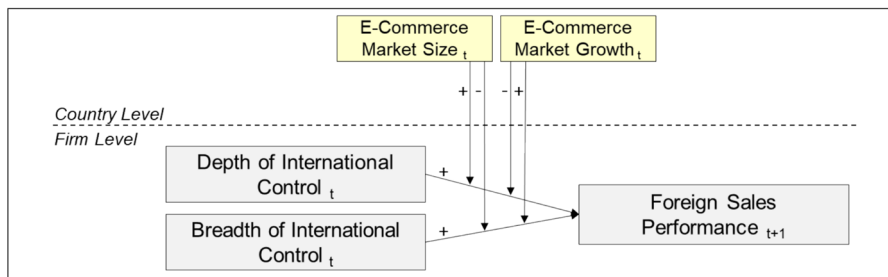


Fig. 1 Conceptual framework

also take approximately one year to manifest in commerce (Batsakis et al., 2023b; Shi et al., 2018).

2.2 Hypotheses on the Performance Effects of International Control Decisions

We revisit ECFs' control decisions from a process, network and capability-theoretical lens and provide new mechanisms to explain performance abroad. We argue that physical control in general allows ECFs to leverage learning, business networks, and operational capabilities for local adaptation and international scaling to increase performance (Batsakis et al., 2023b; Johanson & Vahlne, 2009).

The depth of international control relates to ECFs' hierarchical control over local operations and management in a country based on their operation mode. While offline firms' control depends on exports, cooperation, or WOS, ECFs' virtual presence does not require physical presence to control country operations (Schu & Morschett, 2017). Empirically, manufacturing firms' depth of control positively affects performance (e.g., Giachetti et al., 2019; Wan et al., 2023), whereas the only two commerce studies show contradictory results (negative or positive, Evans et al., 2008; Gielens & Dekimpe, 2001). The performance effects of digital firms, such as ECFs' depth of control, have not been studied.

We argue that *high depth of control* enables ECFs to identify and seize local opportunities to adapt offers and services to customer needs, leading to better sales. ECFs may use high control in a country to gain hands-on market-specific knowledge that can be used to adapt offers or services (e.g., Tolstoy et al., 2022). With local subsidiaries, ECFs may offer local assortments or faster delivery to ensure a better customer experience than outsourcing to partners (Hua & Wu, 2024). ECFs may become embedded in local business networks and collaborate with local stakeholders (e.g., suppliers, Batsakis et al., 2023b) to improve the local supply chain. Unlike exports or partnerships, ECFs can transfer and combine both digital and physical capabilities (e.g., digital marketing capabilities and physical logistics capabilities) to enhance offers and sales. In contrast, *low depth of control* in a country allows ECFs to directly interact with or learn about local customers at low cost and identify local opportunities (e.g., Swoboda & Sinning, 2022). However, the customer experience may be poorer because delivery time and quality, for example, depend on reliable logistics partners, whereas ECFs face liabilities of foreignness (i.e., lack hands-on experience with local cultures; Nambisan & Luo, 2022, p. 55). Moreover, ECFs may rely on online networks and digital stakeholder relations but lack collaboration opportunities and enhanced productivity due to liabilities of outsidership (i.e., lack of local business networks, Johanson & Vahlne, 2009). ECFs may not fully leverage their digital capabilities because they lack the operational or network capabilities to actually seize local opportunities (e.g., Batsakis et al., 2023b).

Therefore, we propose the following:

Hypothesis 1 (H1) *A higher degree of depth of an ECF's international control decisions is associated with higher foreign sales performance.*

The breadth of international control relates to ECFs' level of control across countries and the potential for scaling offers and services or central management. While offline commerce requires FDI per se, ECFs may scale the presence virtually but may not standardize supply chain elements (Schu et al., 2016). Empirically, offline firms' breadth of control affects performance positively (Kirca et al., 2011), although two commerce studies present contradictory results (negative or positively S-shaped, Chan et al., 2011; Dimitrova et al., 2019). The performance effects of ECFs' breadth of control have not been studied.

High breadth of control enables ECFs to leverage their network of WOS across countries to improve foreign sales performance through economies of scale, cross-country synergies, and centralized management (e.g., Dimitrova et al., 2019). We argue that ECFs' process-related learning is path dependent because they may develop and transfer operational knowledge via WOS to reduce the risk of replicating and standardizing offers/services across countries (e.g., Swoboda & Sinning, 2022). Expanding the network of WOS across countries enables synergies in ECFs' own supply chains and with cross-country business networks (Johanson & Vahlne, 2009). As ECFs coordinate more activities centrally across WOS, they may better transfer operational capabilities to streamline assortments, promotions, customer relationship management (CRM), or logistics and improve foreign sales performance (Nath et al., 2010). In contrast, with *low breadth of control* across countries, ECFs may replicate and learn through a virtual presence and thus increase foreign sales digitally. However, they may miss critical operational learning and the potential for standardization to increase long-term foreign sales (e.g., Mithani, 2023). Firms may also leverage online networks to scale quickly and outsource logistics; however, ECFs lack potential synergies or access networks to improve offers or services (e.g., Benmamoun et al., 2019). Similarly, ECFs may transfer and apply digital capabilities virtually at low cost, although operational capabilities to standardize assortments or customer services across markets to increase foreign sales over time are lacking. Consequently, ECFs rely strongly on partners and are unable to control or improve sales performance abroad (Hua & Wu, 2024).

We hypothesize the following:

Hypothesis 2 (H2) *A higher degree of breadth of an ECF's international control decisions is associated with higher foreign sales performance.*

We argue that higher (vs. lower) depth and breadth of control contribute differently to foreign sales performance. ECFs must prioritize if time and resources for expansion are limited (Eduardsen et al., 2023). ECFs are more flexible than offline commerce firms because of their virtual presence but still face the need to improve foreign sales through adapted offers in a country or efficient CRM across countries (Swoboda & Elsner, 2013). Empirically, no study has considered such trade-offs regarding control for offline firms or ECFs. Only for manufacturers' higher foreign market involvement scholars have shown that international sales share drives performance more strongly than geographic reach does (e.g., Elbanna et al., 2024; Miller et al., 2016), whereas a meta-analysis shows the opposite (Schwens et al., 2018).

We argue that for ECFs' sales, improving offers and services visibly within countries is more critical to performance abroad than scale advantages across countries.

Prioritizing depth of control ensures local adaptation to cultural needs and leverages market knowledge, local network relationships, and combined digital and physical capabilities (Meyer et al., 2023). This allows for high-quality offers and services (e.g., next-day delivery, Janjevic & Winkenbach, 2020), which is critical for customer satisfaction, experience and ECF competitiveness. Similarly, ECFs may implement local strategic and operational management dedicated to integrating virtual and physical presence to improve the customer experience and sales in and across countries (Batsakis et al., 2023b). By *prioritizing breadth of control*, ECFs may learn to replicate assortments or services at reduced prices across countries to improve sales. However, commerce markets are often specific with respect to customers' needs, and knowledge of processes is less important for success than offers are (Swoboda & Elsner, 2013). Large WOS networks also allow for synergies across countries, but access to local business networks may be limited, and the quality of collaboration with local stakeholders may vary (Hua & Wu, 2024). A cross-border distribution network also enables more efficient and free delivery at the risk of volatile service quality and barriers due to specific regulations, especially in logistics (e.g., taxes, product safety, Meyer et al., 2023). Finally, ECFs may gain strategic and operational capabilities across WOS, even with a potentially dominant home market, but may develop weaker capabilities to fulfill local customer needs, which limits foreign sales (Batsakis et al., 2023a; Nath et al., 2010).

Thus, we argue the following:

Hypothesis 3 (H3) *The association of the depth of international control with ECFs' foreign sales performance is stronger than the association of the breadth of international control.*

2.3 Hypotheses on the E-Commerce Market Context

The effects of higher (vs. lower) control on ECFs' performance are likely to depend on alignment with external contexts (e.g., Giachetti et al., 2019; Kirca et al., 2012). These are specific to ECFs' successful internationalization due to digitalization (e.g., Cumming et al., 2023; Eduardsen et al., 2023). We argue that ECFs' advantages in terms of learning, networks, and capabilities through control depend on the size and growth of the local e-commerce market (e.g., Dong et al., 2024; Goldman et al., 2021). The extant research has not addressed such contexts in general or for digital firms.

E-commerce market size is related to the potential customer base for ECFs' offers in a country, which is crucial for assessing the attractiveness of an online market and opportunities for high returns (Schu & Morschett, 2017). No empirical insights into the moderation effect of market size on firms' control decisions exist.

With respect to ECFs' depth of control, a *large market size* indicates highly developed e-commerce in a country with high local demand, income levels, and potential for ECFs to introduce adapted offers and customer service to achieve higher sales (e.g., Wang et al., 2012). Large markets offer greater potential for ECFs to leverage local market knowledge in a country because perceived FDI risk is reduced, but this knowledge may also be more difficult to protect and use

over time (Rothaermel et al., 2006; Schu & Morschett, 2017). Local business networks and embeddedness may become more valuable as experienced service providers and local partners are available to build and improve ECFs' local supply chains (Kishore et al., 2004). ECFs may transfer and integrate their digital and operational capabilities more effectively, as large e-commerce markets support local infrastructure but also imply more intense competition that may inhibit it (Goldman et al., 2021). A *low* market size may limit ECFs' ability to leverage knowledge of local customer needs and benefit from networks, as demand is low and FDI for introducing additional offers is not worthwhile (Janjevic & Winkenbach, 2020; Wang et al., 2012).

With respect to ECFs' breadth of control, *high market size* may limit cross-country synergies and centralized management across countries. While ECFs may transfer their FDI experience and gain scale, effectively replicating knowledge across large markets may be highly complex and reduce benefits for foreign sales (Tolstoy et al., 2016). The same applies to standardizing assortments, prices, or CRM in a WOS network across many large markets and achieving synergies (e.g., Johanson & Vahlne, 2009), which is challenging for offline commerce but may be less challenging for ECFs with lower WOS. Since physical presence in multiple large markets with specific demands requires different capabilities, transferring these across countries may be limited, resulting in the outsourcing of logistics, for example (Janjevic & Winkenbach, 2020). A *low* market size may facilitate ECFs' internal knowledge and capability transfer or coordination of the WOS network for synergies because they face less complex markets (Agarwal & Wu, 2015). We expect market size to strengthen the effect of high depth of control on ECFs' performance abroad but mitigate the effect of high breadth.

We hypothesize the following:

Hypothesis 4 (H4) *Market size moderates the association of (a) higher depth and (b) higher breadth of international control with ECFs' foreign sales performance (a) positively and (b) negatively.*

E-commerce market growth reflects the dynamic development of an online market, which is crucial for assessing future potential for foreign sales but also increases risk (e.g., Cumming et al., 2023). Empirically, market growth has not been considered as a moderator of depth or breadth of control in general. For ECFs, only Kishore et al. (2004) indicate a positive moderating effect on the antecedents of depth of control.

With respect to ECFs' depth of control, *high market growth* may reflect a dynamic and fast-changing environment, making it difficult to reliably adapt offers due to fluctuating demand and volatile market trends (e.g., Wan et al., 2023). Acquiring and leveraging long-term market-specific knowledge may be more challenging in markets with a physical presence, and cooperation may be preferable to reduce volatility risk (Morschett et al., 2010). In growing markets, local networks may still be developing, and reliable business partners may be harder to find, challenging ECFs' ability to establish their own local supply chains, which is crucial for sales performance (e.g., Kishore et al., 2004). It may be more difficult for ECFs to transfer and integrate their digital and operational capabilities in such markets because

infrastructural barriers limit foreign sales (e.g., Agarwal & Wu, 2015). In contrast, *low* market growth may enable ECFs to leverage market knowledge and local business networks because markets are more predictable and FDI for local offers is less risky (e.g., Ho et al., 2007).

With respect to ECFs' breadth of control, *high market growth* offers opportunities for developing, testing, and refining supply chain elements that may improve foreign sales performance. The growth momentum in such markets may enable ECFs to scale assortments, prices, or CRM through FDI and benefit from diverse learning opportunities, as e-commerce infrastructure, for example, is still developing (e.g., Goldman et al., 2021). These markets attract new suppliers or partners that offer opportunities to scale ECFs' business networks, which can enable stronger collaboration and mutual learning (e.g., Agarwal & Wu, 2015). High market growth may also encourage ECFs to continuously develop, test, and refine their operational capabilities or recognize new ways to streamline the supply chain across markets, fostering foreign sales performance (e.g., Janjevic & Winkenbach, 2020). *Low* market growth may hold few FDI incentives or learning opportunities for ECFs to benefit from market changes and improve their operational capabilities (e.g., Kishore et al., 2004).

We assume that market growth mitigates the effect of higher (vs. lower) depth of control on ECFs' foreign performance but strengthens the effect of higher (vs. lower) breadth and argue the following:

Hypothesis 5 (H5) *Market growth moderates the associations of (a) higher depth and (b) higher breadth of international control with ECFs' foreign sales performance (a) negatively and (b) positively.*

3 Empirical Study

3.1 Sample

To study performance over time, we developed a database from unique sources: a ranking of the leading ECFs by Digital Commerce 360 (2021) 2015–2020 and individual foreign sales performance data from ECDB (2024b) that are fully available only from 2016 to the beginning of the coronavirus pandemic in 2021, not including the wars in Ukraine and Palestine. The independent, moderating and control variables were lagged by one year (e.g., Batsakis et al., 2023b; Shi et al., 2018).

We selected ECFs on the basis of the rankings of the 500 leading business-to-consumer (B2C) ECFs in Europe (in terms of sales, Digital Commerce 360, 2021). This source collects firm-level data (e.g., firm size, foreign entries) based on firms' own information or estimations verified by each firm. Initially, 560 ECFs were found that were not necessarily founded in Europe and are active worldwide but had to be active in at least one foreign market. We excluded 193 ECFs that operated only in their home markets and 47 ECFs that operated only "dot-com domains" abroad because these do not indicate clear foreign market entries. This procedure resulted in 320 ECFs. For each ECF, local presence and further firm-level control variables

were collected by the authors and trained master's student assistants. We examined the host country websites of each ECF to verify their existence and used annual reports, press releases, public archives or articles, social media, firm directories and job market sites to verify market entry dates and collect the operation mode in each country. At least 80% of the data were checked by two or more sources. Similarly, the industry, firm size and born digital characteristics of the firms were collected or double-checked against the databases. For 33 ECFs, the operation mode or firm size could not be obtained.

We expanded this database with foreign sales performance data from ECDB (2024b) on individual ECFs. To our knowledge, this is the only recently available database on ECFs' foreign sales over time, which is based on firms' own information and verified estimations. We attempted to verify these data and further firm-level controls such as online age, foreign sales share or offering a marketplace within the online business using the sources and procedures mentioned above. We matched these foreign sales data with the selected 287 ECFs and excluded 101 ECFs (often smaller firms not obliged to publish financial data), for which no sales data in general or over time were available. ECDB (2024a) was also used to obtain country-level e-commerce market data, which we matched to the year of the control decision. Data on B2C e-commerce market size were available for over 150 countries. We estimated these data based on the national chambers of commerce and UNCTAD's (2024) B2C e-commerce index and calculated e-commerce market growth over the investigated period. We excluded 50 mostly very small host countries (e.g., Afghanistan, Monaco, and Maldives) and two ECFs with entry decisions only in these countries.

The final dataset included 1,144 control decisions in 112 countries by 184 ECFs from 22 home countries (see Table 1). We used a maximum likelihood estimator with robust standard errors and test statistics (Maydeu-Olivares, 2017).

3.2 Measurement

Dependent Variable. We measured ECFs' *foreign performance* as net first-party online sales after deducting returns, allowances, discounts, and third-party marketplace sales (ECDB, 2024a). Foreign net sales are an important benchmarking tool for ECFs to assess their sales profitability and competitive positioning and are commonly used for industry rankings. We follow earlier studies on ECFs (Gregory et al., 2019; Tolstoy et al., 2016), as further performance measures (e.g., return on assets, net income, Batsakis et al., 2023b) vary by commerce sector and are not required to be published by most ECFs (e.g., Swoboda & Sinning, 2022). We tested foreign sales growth as a stability check (Colton et al., 2010).

Independent Variables. Firms' *depth of international control* was measured on a four-point scale to capture ECFs' level of hierarchical control over operations and management within a host country: 1=indirect/passive virtual presence, 2=direct/active virtual presence, 3=cooperative modes, and 4=WOS (covering ECFs' virtual and physical operation mode decisions in each host country over time; Brouthers et al., 2022). Because, to our knowledge, no alternatives exist,

Table 1 Sample distribution

| Home countries | Number of ECFs | Number of entries |
|--------------------|----------------|-------------------|
| Australia | 1 | 3 |
| Austria | 1 | 1 |
| Belgium | 1 | 7 |
| China | 6 | 79 |
| Czech Republic | 2 | 4 |
| Denmark | 4 | 47 |
| Finland | 1 | 21 |
| France | 33 | 118 |
| Germany | 36 | 127 |
| United Kingdom | 39 | 260 |
| Ireland | 1 | 3 |
| Italy | 10 | 182 |
| Korea (Rep.) | 1 | 27 |
| Netherlands | 5 | 17 |
| Poland | 3 | 9 |
| Romania | 1 | 1 |
| Russian Federation | 2 | 2 |
| Spain | 6 | 40 |
| Sweden | 3 | 47 |
| Switzerland | 3 | 15 |
| Turkey | 3 | 9 |
| United States | 22 | 125 |
| Total | 184 | 1,144 |

we oriented ourselves toward traditional mode scales (e.g., Evans et al., 2008; Hernández & Nieto, 2015). We referred to studies on international ECFs to define forms of virtual presence similar to traditional exports (e.g., Ipsmiller et al., 2022; Sinkovics et al., 2013). An indirect/passive virtual presence was defined as operating in a dot-com/uk domain (i.e., a standardized website with no local adaptations beyond linguistic translation). A direct/active virtual presence was defined as a country-specific dot-uk domain (i.e., a locally registered domain, adapted language, and currency, Schu & Morschett, 2017), which offers more control over operations in a country. Cooperative modes were defined as various forms of cooperation with shared control (i.e., contractual partnerships, alliances, or logistics networks); joint ventures are not common. Wholly owned subsidiaries for full operational control were defined as sales/service subsidiaries in a country. WOS unrelated to ECFs' core online commerce business were excluded (e.g., production/technology sites or offline stores). We subsequently interpret this scale and its effects only in terms of significance and sign (not in terms of the meaning of intervals in this metric, e.g., Lalla, 2017; instead of a less informational dummy treatment, Winship & Mare, 1984).

The *breadth of international control* was measured as the number of markets in which an ECF had its own subsidiaries and warehouses (i.e., full strategic and operational control) in addition to a virtual presence to capture ECFs' level of control across host countries. This measure captures ECFs' virtual and physical commitment to a country network of subsidiaries that enables firms to scale their international supply chain over time (e.g., Schu & Morschett, 2017). Related measures, such as geographic diversification (i.e., the proportion of sales in a country, Oh et al., 2015), were unavailable for ECFs over time. We tested the breadth of virtual presence (i.e., number of countries) in our stability checks.

Moderating Variables. Host country *e-commerce market size* was measured as market revenue in B2C sales of physical goods, including taxes and excluding returns, discounts or services (ECDB, 2024a). This measure reflects ECFs' relevant market segment, which has recently become available and has been overlooked in previous studies (Schu & Morschett, 2017). E-commerce market growth was measured as the year-over-year change in market sales (ECDB, 2024a), which is most common in the literature (e.g., GDP growth, Morschett et al., 2010). It captures the sector-specific growth relevant for B2C ECFs. Alternative measures (e.g., online shopping expenditures, Ho et al., 2007) are not yet available across countries.

Controls. We controlled for important variables at the firm and country level.

We controlled for *firm size* as an important indicator of firms' ability to increase performance (Oh et al., 2015). We measured the logarithm of firms' online sales with data from Digital Commerce 360 (2021). This is a common indicator of ECF size because ECFs hire fewer employees and the numbers are not available over time (Swoboda & Sinning, 2022).

Firms' *online age* was measured as the number of years since an ECF first started selling online. Online age may affect ECFs' sales performance because more time is available to gain experience and digital capabilities (Sinkovics et al., 2013) and because not all ECFs start businesses online (Fleury et al., 2024). We collected these data from the ECDB (2024b).

We controlled for *home market size*, which may affect ECFs' foreign performance and expansion (e.g., Batsakis et al., 2023b). Large home markets may limit ECFs' further domestic growth and drive increased foreign sales (Swoboda & Sinning, 2022). Home market size was measured with the logarithmized GDP per capita via data from the World Bank (2023).

The *foreign sales share* was controlled to account for ECFs' degree of internationalization, which affects performance (Bhandari et al., 2023), on the basis of ECDB (2024b) data. A high share of foreign sales also reflects ECFs' experience in international markets (Tolstoy et al., 2022).

We controlled for ECFs running an additional *online marketplace* (i.e., offering a platform for third-party sellers) next to their online shop (Gong et al., 2024). This may enable ECFs to expand their local network and attract more customers, which can lead to increased foreign sales (Cha et al., 2023). We used a binary measure of 1 = yes and 0 = no (ECDB, 2024b).

Born digital firms (i.e., ECFs with a virtual presence from inception, Monaghan et al., 2020) were controlled because firms that go digital (i.e., those that adopted

digital channels later) can draw on legacy infrastructure and experience to increase performance (Birkinshaw, 2022). Born digital ECFs may be less flexible and cannot integrate virtual and physical presence easily (Batsakis et al., 2023a). We used a binary measure (1 = born digital and 0 = not, Digital Commerce 360, 2021).

To control for *industry* effects, we created dummy variables for the three most important industries in our sample, i.e., fashion, electronics, and food (i.e., 29%, 21%, and 8% of ECFs, respectively). We used industry classification data from Digital Commerce 360 (2021). Commerce firms' sales volume differs greatly across industries (e.g., grocery versus fashion due to purchase frequency, Batsakis et al., 2023b).

At the country level, we controlled for *host market size*, measured as the logarithm of host countries' GDP per capita (Batsakis et al., 2023a), which is most often used to capture market attractiveness (Rothaermel et al., 2006) and is available from the World Bank (2023). A large market reflects high demand for ECFs' offers and thus opportunities to increase foreign sales performance (Swoboda & Sinning, 2022).

Bivariate correlations of all variables at the firm and country levels did not raise any concerns about collinearity in our data (see Table 2), as also indicated by the variance inflation factors (e.g., O'Brien, 2007).

To address potential bias from omitted variables, endogeneity was assessed via instrumental variables (Antonakis et al., 2014). We chose host country online experience (measured by the number of years a firm has been virtually present in a specific country, e.g., Wan et al., 2023) as an instrumental variable (IV) theoretically related to ECFs' depth of international control. The host country's online experience reflects ECFs' market-specific knowledge acquired via virtual presence over time (e.g., Li & Meyer, 2009). It relates to ECFs' ability to recognize or leverage specific location advantages for adapted offers in a country and choose high control locally (e.g., Tang & Gudergan, 2018). We chose international online experience (measured as the number of years since an ECF's first online market entry, Dow & Larimo, 2009) as an IV relevant to ECFs' breadth of international control. Firms may leverage general international experience as a capability to scale foreign operations and control across countries (e.g., Kirca et al., 2011; Schu et al., 2016). We compared the strength of these IVs via F-tests (Stock & Watson, 2019, p. 270), which revealed no significant difference between the proposed efficient and consistent models. This finding indicates that both the depth and breadth of international control are exogenous (Hausman, 1978; see Web Appendix A) [1].

3.3 Method

Hypotheses were tested via multilevel modeling with cross-level interactions in Mplus 9 to account for nested data considering firm- and country-level effects and variances between and within countries simultaneously (Hox et al., 2018, p. 215).

We ran stepwise random intercept and slope models to assess model fit via the Akaike information criterion (AIC) and Bayesian information criterion (BIC) (Hox et al., 2018, p. 123, Kaufman, 1996).

Table 2 Descriptive statistics and correlations

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|--------------------------------------|-------|-------|-------|-------|--------|--------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| Mean | 4.602 | 2.373 | 9.097 | 5.477 | 14.365 | 10.505 | .072 | .555 | .171 | .497 | .139 | .055 | 10.020 | 8.333 | .217 |
| SD | 2.117 | 1.324 | 1.055 | 1.769 | 5.842 | .515 | .268 | .326 | .377 | .500 | .346 | .228 | 1.010 | 1.986 | .118 |
| VIF (max.) | - | 1.347 | 1.951 | 1.480 | 1.699 | 1.812 | 1.439 | 1.298 | 1.713 | 1.540 | 1.445 | 1.218 | 1.257 | 1.302 | 1.080 |
| Foreign Sales Performance (log.) (1) | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
| Depth of Control (2) | | | | | | | | | | | | | | | |
| Breadth of Control (3) | | | | | | | | | | | | | | | |
| Firm Size (log.) (4) | | | | | | | | | | | | | | | |
| Online Age (5) | | | | | | | | | | | | | | | |
| Home Market Size (log.) (6) | | | | | | | | | | | | | | | |
| Marketplace (0/1) (7) | | | | | | | | | | | | | | | |

Table 2 (continued)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
|------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|----------|----------|------|
| Foreign Sales Share (8) | .471*** | .115*** | .300*** | -.094** | -.092** | -.091** | -.016 ns | 1 | | | | | | | |
| Born Digital (0/1) (9) | -.036 ns | -.155*** | -.331*** | .019 ns | -.232*** | -.164*** | .521*** | -.068* | 1 | | | | | | |
| Fashion (0/1) (10) | -.052 ns | -.139*** | -.097** | -.049 ns | .104*** | -.089*** | -.053 ns | -.130*** | -.118*** | 1 | | | | | |
| Electronics (0/1) (11) | .121*** | .055 ns | .003 ns | .057 ns | -.002 ns | -.087** | .016 ns | .161*** | -.096** | -.400*** | 1 | | | | |
| Food (0/1) (12) | .088** | .094** | .107** | .064* | -.016 ns | -.091** | .111*** | .142*** | .063* | -.240*** | -.097** | 1 | | | |
| Host Market Size (log.) (13) | -.094** | .089** | -.095* | -.009 ns | .040 ns | .110*** | -.022 ns | -.124*** | .086** | -.013 ns | .005 ns | -.054 ns | 1 | | |
| EC Market Size (log.) (14) | -.083*** | .194*** | -.133*** | -.065* | -.037 ns | .061* | .079*** | -.031 ns | .176*** | -.129*** | .004 ns | .071* | .374*** | 1 | |
| EC Market Growth (15) | .043 ns | -.060* | .070* | .021 ns | .013 ns | -.052 ns | .003 ns | .063* | -.044 ns | .011 ns | .005 ns | .015 ns | -.374*** | -.236*** | 1 |

***p < .001; **p < .01; *p < .05; ns Not significant. EC E-Commerce, SD Standard deviation, VIF Variance inflation factor

First, a model with only the controls was calculated. We added the independent variables separately and jointly, added country-level moderators, and finally added all the variables into one model. All independent and moderating variables were grand mean centered to increase the interpretability of intercepts and estimates (Hox et al., 2018, pp. 61–63; Stallkamp et al., 2023). The following equation describes the model with only the controls and firm-level independent variables:

$$\begin{aligned} \text{For_Perf}_{ij(t+1)} = & \beta_{0j} + \beta_{1j}(\text{Ctrl_Depth}_{ij(t)}) + \beta_{2j} + \beta_{1j}(\text{Ctrl_Depth}_{ij(t)}) \\ & + \beta_{\text{controls}} \text{ILC}_{ij(t)} + \beta_{\text{controls}} \text{CLC}_{j(t)} + r_{ij} \end{aligned} \quad (1)$$

where i denotes an ECF in host country j , For_Perf_{ij} =ECF's foreign sales performance one year after the control decision in a country; Ctrl_Depth_{ij} =ECF's depth of control; Ctrl_Breadth_{ij} =ECF's breadth of control; β_{0j} =first-level intercept; β_{1j} , β_{2j} =regression scores of firm-level independent variables; ILC_{ij} = firm-level controls; CLC_j =country-level control; r_{ij} =first-level error term. The intercept β_{0j} and slopes β_{1j} and β_{2j} were free to vary across countries, whereas the CLC_j and country-level moderators CLV_j were assumed to predict variations in the β coefficients according to the following equations:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{CLV}_{j(t)}) + \gamma_{02}(\text{CLC}_{j(t)}) + u_{0j} \quad (2)$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{CLV}_{j(t)}) + u_{1j} \quad (3)$$

$$\beta_{2j} = \gamma_{20} + \gamma_{21}(\text{CLV}_{j(t)}) + u_{2j} \quad (4)$$

with γ_{00} =second-level intercept of the dependent variable; γ_{10} and γ_{20} =second-level intercepts of the random slopes of the firm-level predictors; u_{0j} =country-level residual variance; and u_{1j} , u_{2j} =random slopes of the firm-level variables at the country level. Substituting Eqs. (1) to (4) and including the two country-level moderators CLV_j as cross-level interactions resulted in the final equation:

$$\begin{aligned} \text{For_Perf}_{ij(t+1)} = & \gamma_{00} + \gamma_{01}(\text{CLV}_{j(t)}) + \gamma_{10}(\text{Ctrl_Depth}_{ij(t)}) + \gamma_{11}(\text{CLV}_{j(t)})(\text{Ctrl_Depth}_{ij(t)}) \\ & + \gamma_{20}(\text{Ctrl_Breadth}_{ij(t)}) + \gamma_{21}(\text{CLV}_{j(t)})(\text{Ctrl_Breadth}_{ij(t)}) + \gamma_{\text{ILC}} \text{ILC}_{ij(t)} + \gamma_{\text{CLC}} \text{CLC}_{j(t)} + \text{error}. \end{aligned} \quad (5)$$

with ε =residual variances and errors.

3.4 Results

Table 3 shows the results of hypothesis testing with unstandardized coefficients (standardized coefficients cannot be computed for random intercepts and slopes, Hox et al., 2018, pp. 17–18). We report additional effect sizes to assess the relative strength of the coefficients (Marsh et al., 2009).

In support of H1, the results show that higher (vs. lower) depth of international control is positively associated with ECFs' foreign sales performance ($b=0.165$, $p<0.001$). The greater ECFs' control within foreign markets is, the better they

Table 3 Results

| | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | | Model 6 | | Model 7 | | Differences (t-values) |
|-----------------------|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|------------------------|
| | b | p | b | p | b | p | b | p | b | p | b | p | b | p | |
| Intercept | 4.473 | ns | 4.723 | * | 4.452 | ns | 4.695 | * | 4.556 | * | 4.859 | * | 4.695 | * | |
| <i>Firm Level</i> | | | | | | | | | | | | | | | |
| Depth of Control | | | .193 | *** | | | .172 | *** | .173 | *** | .155 | *** | .165 | *** | 4.564*** |
| Breadth of Control | | | | | .021 | *** | .013 | *** | .014 | *** | .015 | *** | .015 | *** | |
| | | | | | | | | | | | | | (.143) | | |
| <i>Country Level</i> | | | | | | | | | | | | | | | |
| EC Market Size (log.) | | | | | | | | | -.015 | ns | | | -.019 | ns | |
| | | | | | | | | | | | | | (-.048) | | |
| ×Depth of Control | | | | | | | | | .001 | ns | | | -.004 | ns | .447 ns |
| ×Breadth of Control | | | | | | | | | -.001 | ns | | | (-.010) | | |
| EC Market Growth | | | | | | | | | | | | | .000 | ns | |
| | | | | | | | | | | | | | (.000) | | |
| → FSP | | | | | | | | | | | -.476 | * | -.456 | * | |
| | | | | | | | | | | | | | (-.098) | | |
| ×Depth of Control | | | | | | | | | | | -.360 | * | -.332 | * | 2.271** |
| ×Breadth of Control | | | | | | | | | | | | | (-.074) | | |
| Controls (Firm Level) | | | | | | | | | | | .032 | * | .030 | * | |
| | | | | | | | | | | | | | (.007) | | |
| Firm Size (log.) | .951 | *** | .922 | *** | .898 | *** | .892 | *** | .892 | *** | .893 | *** | .893 | *** | |
| | | | | | | | | | | | | | (1.490) | | |
| Online Age | .018 | ns | .019 | ns | .019 | ns | .019 | ns | .019 | ns | .019 | * | .019 | ns | |
| | | | | | | | | | | | | | (.105) | | |

Table 3 (continued)

| | | Model 1 | | Model 2 | | Model 3 | | Model 4 | | Model 5 | | Model 6 | | Model 7 | | Differences (t-values) | |
|-------------------------|-------|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|------------------------|-----|
| | | b | p | b | p | b | p | b | p | b | p | b | p | b | p | | p |
| Home Market Size (log.) | → FSP | -.663 | * | -.648 | ** | -.636 | * | -.634 | ** | -.630 | ** | -.641 | ** | -.634 | ** | | ** |
| | | | | | | | | | | | | | | (-.308) | | | |
| Foreign Sales Share | → FSP | 3.471 | *** | 3.394 | *** | 3.279 | *** | 3.282 | *** | 3.288 | *** | 3.273 | *** | 3.283 | *** | | *** |
| | | | | | | | | | | | | | | (1.010) | | | |
| Marketplace (0/1) | → FSP | .251 | * | .232 | * | .301 | ** | .266 | ** | .269 | ** | .271 | ** | .267 | ** | | ** |
| Born Digital (0/1) | → FSP | -.273 | ** | -.131 | ns | -.086 | ns | -.029 | ns | -.026 | ns | -.036 | ns | -.027 | ns | | ns |
| | | | | | | | | | | | | | | (.000) | | | |
| Fashion (0/1) | → FSP | -.020 | ns | .066 | ns | .046 | ns | .097 | ns | .094 | ns | .103 | ns | .099 | ns | | ns |
| | | | | | | | | | | | | | | (.047) | | | |
| Electronics (0/1) | → FSP | -.244 | ns | -.197 | * | -.139 | ns | -.137 | ns | -.137 | ns | -.124 | ns | -.129 | ns | | ns |
| | | | | | | | | | | | | | | (-.042) | | | |
| Food (0/1) | → FSP | -.559 | *** | -.596 | *** | -.567 | *** | -.602 | *** | -.594 | *** | -.594 | *** | -.588 | *** | | *** |
| | | | | | | | | | | | | | | (-.127) | | | |
| <i>Controls</i> | | | | | | | | | | | | | | | | | |
| <i>(Country Level)</i> | | | | | | | | | | | | | | | | | |
| Host Market Size (log.) | → FSP | -.019 | ns | -.046 | ** | -.014 | ns | -.014 | ** | -.028 | ns | -.055 | *** | -.041 | ** | | ** |
| | | | | | | | | | | | | | | (-.052) | | | |
| AIC | | 2,717.561 | | 2,604.448 | | 2,685.027 | | 2,599.349 | | 2,601.594 | | 2,594.326 | | 2,600.985 | | | |
| BIC (Adjusted) | | 2,741.819 | | 2,630.572 | | 2,711.150 | | 2,627.338 | | 2,635.181 | | 2,631.645 | | 2,640.170 | | | |

***p < .001; **p < .01; *p < .05; ns Not significant. Effect sizes are shown in brackets. EC E-Commerce; FSP Foreign Sales Performance (log.).

perform in terms of foreign sales. Similarly, a higher (vs. lower) breadth of ECFs' international control is positively associated with their foreign performance ($b=0.015$, $p<0.001$). Greater control across countries through subsidiaries leads to higher foreign sales performance by ECFs. H2 is supported. Comparing the relative strength of increasing depth versus breadth of international control, we find the effect of depth to be significantly stronger than that of breadth ($t=4.564$, $p<0.001$). The depth of control is more strongly positively associated with ECFs' foreign sales performance, supporting H3.

With respect to country-level interaction effects, market size does not moderate associations of either depth or breadth of control with foreign performance ($b_{MSIZE \times Ctrl_Depth} = -0.004$, $p > 0.10$, $b_{MSIZE \times Ctrl_Breadth} = 0.000$, $p > 0.10$). Surprisingly, market size does not strengthen or weaken the effects of depth or breadth of control on foreign sales performance, which we address in the discussion. H4a and H4b are rejected. Market growth negatively moderates the associations of depth of control and performance ($b_{MGROWTH \times Ctrl_Depth} = -0.332$, $p < 0.05$), supporting H5a. The results also show a positive moderation effect of market growth on the associations of breadth of control and performance ($b_{MGROWTH \times Ctrl_Breadth} = 0.030$, $p < 0.05$), supporting H5b.

Among the firm-level controls, firm size, home market size, foreign sales share, marketplace, and the food industry are significantly associated with ECFs' foreign performance, as is host market size at the country level.

3.5 Stability Checks

We tested several alternative models to check the stability of our results.

First, we tested a randomly split-half sample with identical results (see Web Appendix B).

Second, we tested the stability of the international control–performance relationship by adding several ECFs for which two more years of performance data, but no e-commerce market data, were available (221 ECFs with 1,691 control decisions, Web Appendix C). The results remained stable.

Third, we tested foreign sales growth as a dependent variable (see Web Appendix D). Theoretically, high depth of control may allow ECFs to exploit opportunities for higher sales within countries and thus foreign sales growth. Likewise, high breadth of control may enable ECFs to reduce uncertainties of distribution and increase foreign sales growth by exploiting opportunities for coordination across countries (e.g., Swoboda & Sinning, 2022). The results underline the effects of both control measures on foreign sales growth.

Fourth, we tested for a possible nonlinear relationship between high breadth of control and foreign performance (see Web Appendix E). Theoretically, ECFs may achieve synergies across their subsidiary network when their breadth of control is high but may face coordination and management challenges with too many WOS, which may decrease performance (Dimitrova et al., 2019). The results show no indication of nonlinear effects, supporting our linear modeling.

Fifth, we tested ECFs' breadth of virtual presence (i.e., the number of markets in which an ECF operates, Schu et al., 2016; see Web Appendix F). Theoretically, ECFs may achieve economies of scale digitally by serving multiple markets with a virtual presence, but we expect the effects to be less strong, as ECFs lack critical operational capabilities to improve distribution (Fleury et al., 2024). The results are nonsignificant, supporting our conceptualization.

Sixth, we tested ECFs' depth of control as a binary variable (i.e., wholly owned subsidiaries vs. other modes, which is often used as a mode measure, not as a control measure, but sometimes associated with different control levels, e.g., meta-analysis by Wan et al., 2023). Theoretically, ECFs with subsidiaries have more control over operations than those with other modes (e.g., Fleury et al., 2024). The results support our conclusions in the main models and partly the moderation, which, however, could be due to a low variance of the binary variable in a complex multilevel model (see Web Appendix G).

Seventh, we compare countries with high (versus low) market size and growth to assess the stability of the continuous moderations (Goldman et al., 2021). The results supported our conclusions (see Web Appendix H).

Eight, the control marketplace may theoretically moderate the links studied (e.g., for ECFs with marketplaces (vs. online shops only), the association of depth and breadth with performance might be greater because of benefits for third-party sellers from ECFs' local and cross-national control or networks, Li & Li, 2023). However, the results show a positive moderation only for depth (not breadth) of control (see Web Appendix I). A link of marketplace with the depth and breadth of control and performance in a mediation model is not surprising or new, not the aim of our study, and thus is not shown.

4 Discussion

Our study extends the limited but critical knowledge on ECFs' successful internationalization, especially the role of international control decisions, in response to many research calls (e.g., Batsakis et al., 2023b; Ipsmiller et al., 2022). Considering ECFs' potential trade-off decisions and specific contexts of local e-commerce markets, we offer novel insights into integrating virtual and physical presence (Meyer et al., 2023) and provide theoretical and managerial implications.

4.1 Theoretical Implications

With respect to our first research question, i.e., whether and how strongly ECFs' higher (vs. lower) international control in terms of depth versus breadth drives their foreign sales performance, we show for the first time the importance of international control decisions for ECFs' performance. We provide evidence of previously unexplored mechanisms behind the discussed "space–place relationship" (Stallkamp et al., 2023). While research has focused on new theoretical mechanisms to explain digital firms' performance based on virtual expansion processes, online networks,

and digital capabilities (Cumming et al., 2023), we also show that traditional mechanisms apply to explain ECFs' foreign performance. ECFs benefit from digital learning and market entry, online networks to expand the customer base, and digital capabilities based on real-time data. We conclude that applying a purely digital theory lens fails to explain the performance of ECFs and possibly platform firms, as it neglects onsite learning, local network relationships and key operational capabilities (Batsakis et al., 2023b; Gong et al., 2024).

We strongly extend the literature that focuses on digital presence only and identify a trade-off, as depth of international control appears to drive ECFs' foreign sales performance significantly more than breadth.

In terms of *depth*, ECFs can improve foreign sales performance through locally adapted offers, customer service, and supply chains. Digital internationalization processes reduce the need for physical control in a country, as ECFs interact with and sell offers to customers online (Monaghan et al., 2020). However, these ECFs risk falling into the "virtuality trap", i.e., relying on virtual presence too much (Sinkovics et al., 2013). Our findings support this notion, as ECFs improve their performance abroad through high physical control within countries. While scholars argue that physical networks are likely less important for ECFs due to digital relationships (Cumming et al., 2023), we show that ECFs' local networks and embeddedness remain crucial for local supply chains (without missing local opportunities, Batsakis et al., 2023b). While ECFs use unique digital capabilities to meet customers' needs online, we stress the need for physical capabilities (e.g., logistics, commerce skills, Janjevic & Winkenbach, 2020). ECFs appear to be most successful when both are integrated (e.g., Batsakis et al., 2023a).

In terms of *breadth*, ECFs can optimize their efficiency by scaling their purchasing, offers, services, or general management across countries. Digitalization has transformed ECFs' internationalization process by making them agile and less spatially dependent (Monaghan et al., 2020). We additionally show that ECFs' business requires physical control across countries to be scalable (Hua & Wu, 2024). This is supported by our nonsignificant stability checks for ECFs' breadth of virtual presence. Scaling only virtual presence across countries does not improve foreign sales performance. Scholars also argue that digital networks can be scaled easily, offering network advantages for customer acquisition (e.g., Cha et al., 2023, and in this study, firms running a marketplace show a positive, full moderation for depth of control; the direct control effect for performance disappears). However, this cannot replace the synergies that ECFs' physical networks offer (Schu & Morschett, 2017). Similarly, ECFs' unique digital capabilities can be leveraged to scale their virtual presence (Cumming et al., 2023). However, again, ECFs need operational capabilities to successfully transfer management across countries (e.g., Janjevic & Winkenbach, 2020).

In summary, our insights contribute to the discussion on virtual presence (in "space") as an alternative to physical control (in "place", Monaghan et al., 2020; Ipsmiller et al., 2022; Sinkovics et al., 2013). They contribute to the priorities of local or central decision making (e.g., faced by commerce, Evans et al., 2008). As higher depth of control is a stronger lever for performance, leveraging local opportunities, network relationships, and capabilities to address customer needs through

control in markets seems preferable, followed by broadening control and thus synergies across countries. Moreover, our stability checks reveal that ECFs operating their own marketplaces benefit even more from higher depth (but not breadth) of control than those that do not. Greater local control allows these firms to attract third-party sellers locally, who can use the fulfillment services provided by ECFs, for example, and stimulate foreign sales. In contrast, scale benefits of ECFs' WOS network may not be directly relevant to them. This implies varying degrees of control required by different types of digital businesses. For example, business-to-business (B2B) platforms such as Alibaba or consumer-to-consumer (C2C) platforms such as eBay can benefit from local control and adding local services, while i-business platforms such as Uber or Shopify rely on digital services and networks. We conclude that ECFs that can balance local and central decision making will be most successful abroad, as they can leverage adapted offers and streamline physical operations. This is supported by e-commerce market contexts.

Regarding our second research question about how host countries' e-commerce market size and growth moderate the discussed effects, we offer new insights into the contextual differences of local e-commerce markets, which suggest a further trade-off in mature versus growing markets.

Surprisingly, our results show that ECFs' control decisions do not depend on market size. An explanation may be that ECFs face intense competition in larger markets against offline commerce (Goldman et al., 2021), which offsets the expected benefits of high demand. It may also be that market knowledge is more difficult to protect (Kishore et al., 2004) or that capabilities are less beneficial for sales. ECFs may be able to manage control across multiple markets without compromising scale, as their physical network is typically smaller/less complex than that of offline firms (Batsakis et al., 2023a).

Market growth represents an important context for both ECFs' control decisions but in opposite directions. ECFs' benefits of high control in a country are offset in markets with high e-commerce growth. Local control is affected by changing demands, an evolving competitive landscape, and an overall volatile online environment, making it difficult to leverage learning and networks for adapted offers and services and transfer capabilities effectively (Janjevic & Winkenbach, 2020; Kishore et al., 2004). ECFs benefit from such growth conditions when scaling across countries. They can leverage the growth momentum in a country, supported by government incentives or local investors, to make FDI that allows their international distribution to be streamlined and to create cross-country synergies (Agarwal & Wu, 2015; Wang et al., 2012). For example, ECFs may standardize internal processes and capabilities across countries in logistics, offers (e.g., assortments, pricing), or customer services to drive sales (similar to offline commerce, Swoboda & Elsner, 2013). ECFs that choose high depth of control to improve performance are limited in growing markets, whereas ECFs that aim to scale their network across countries can do so best under growth conditions but may miss out on local opportunities for adapted offers.

4.2 Managerial Implications

This study offers important insights for managers of ECFs and emerging digital firms who may struggle with foreign sales performance (Batsakis et al., 2023a; Ipsmiller et al., 2022). Unnoticed roles and trade-offs from ECFs' control decisions and e-commerce market contexts may lead to ineffective investments or short conclusions on how managers can navigate dynamic e-commerce markets successfully (e.g., Meyer et al., 2023).

Practitioners can learn from this study that higher (vs. lower) international control increases even digital firms' foreign sales performance. Manufacturing firms that use ECFs' platforms may prefer those that are more internationally successful with greater international control. A nearly 50% stronger effect of depth over breadth of control is apparent. This suggests a clear recommendation regarding a trade-off decision for ECFs that aim to increase foreign sales (Batsakis et al., 2023b). Managers responsible for ECFs' virtual and physical presence abroad should push control within countries to provide adapted offers. Activities can be developed to scale the presence of ECFs across countries around a network of WOS. However, scaling the virtual presence or a network of WOS alone does not optimally increase sales performance abroad. Both should be pursued together, which may increase foreign sales performance most strongly regardless of whether ECFs are born or going digital (Batsakis et al., 2023a; Stallkamp et al., 2023). Both require a physical footprint in which ECFs need to invest while considering local e-commerce markets, which affects this decision.

Similar implications arise in distinct e-commerce country contexts where both physical footprints remain important for foreign performance but where the local e-commerce context matters (Kishore et al., 2004). Managers should consider e-commerce market growth as a context in both decisions rather than the widespread and perhaps more easily grasped market size. However, another trade-off arises. ECFs that seek to improve the benefits of high control should focus on the depth of control in mature e-commerce markets (i.e., Janjevic & Winkenbach, 2020) and invest in the subsidiary network across higher-growth countries. This may be counterintuitive to the more obvious initial investments of offline firms in growing markets followed by a later focus on efficient WOS networks. However, for ECFs, increasing foreign sales through adaptation with WOS is less critical in higher-growth countries but is strongly recommended in mature markets. Over time, subsidiary networks are a basis for such adaptations.

5 Limitations and Further Research

Our study has several limitations that offer further research opportunities.

We used unique longitudinal data that could be expanded in the future to include other continents or B2B and C2C ECFs like Alibaba or eBay. Analyzing control decisions of i-businesses (which can internationalize purely digitally, e.g., Netflix) compared with ECFs would be interesting, as both types are often mixed in the literature. This is unwarranted, as the internationalization processes, networks, and

capabilities of both differ. Data on specific business types, such as omnichannel or specific niche ECFs, could become available in the future. Studying marketplaces and third parties' foreign performance or the impact of different platform models from an information systems perspective is also promising (e.g., Gong et al., 2024).

With respect to these measures, we could not study ECFs' host country performance, which would provide further insights into control decisions (e.g., Swoboda & Elsner, 2013). Future data on financial and nonfinancial performance (e.g., return on investment, Tolstoy et al., 2022; conversion rates, Goldman et al., 2021) will offer new insights. Capturing marketplace-specific measures such as the gross merchandise volume will allow further comparisons among ECFs. We measured ECFs' depth of control as operation modes but could not capture different forms of cooperation (Hua & Wu, 2024) or dynamic changes in control over time (Putzhammer et al., 2020). We also captured the breadth of control across countries entered virtually, although few ECFs operate WOS in other countries (e.g., serving as regional hubs, Schu et al., 2016). Interesting further e-commerce market data could be available in the future (e.g., on consumer segments, ECDB, 2024a).

Our framework refers to ECFs' international control, although control may also decrease over time (e.g., due to failures or strategic decisions, Brouthers et al., 2022), which may affect ECFs' local and possibly foreign sales performance (Wan et al., 2023). The current success of aggressively exporting ECFs such as Shein and insights into further e-commerce-specific contexts (e.g., regulations) are interesting. Contingency patterns beyond a contextual view (Wang et al., 2024) might be worth studying. Studying the performance effects of further decisions, such as simultaneous entry and standardization of offers, would provide further insights into international ECFs' expansion (Meyer et al., 2023; Mohr & Batsakis, 2018).

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s11575-025-00570-y>.

Funding Open Access funding enabled and organized by Projekt DEAL. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declarations

Conflict of interest None.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Agarwal, J., & Wu, T. (2015). Factors influencing growth potential of e-commerce in emerging economies: An institution-based N-OLI framework and research propositions. *Thunderbird International Business Review*, 57(3), 197–215.
- Amazon (2024). Country Websites. Retrieved 07.08.2024, from <https://www.amazon.com/>
- Batsakis, G., Konara, P., & Theoharakis, V. (2023a). Digital sales channels and the relationship between product and international diversification: Evidence from going digital retail MNEs. *Global Strategy Journal*, 13(4), 830–856.
- Batsakis, G., Theoharakis, V., Li, C., & Konara, P. (2023b). Internationalization and digitalization: Their differing role on grocer and non-grocer retailer performance. *Journal of Retailing*, 99(3), 400–419.
- Benmamoun, M., Singh, N., Lehnert, K., & Lee, S. B. (2019). Internationalization of e-commerce corporations (ECCs): Advanced vs emerging markets. *Multinational Business Review*, 27(4), 317–338.
- Bhandari, K. R., Zámorský, P., Ranta, M., & Salo, J. (2023). Digitalization, internationalization, and firm performance: A resource-orchestration perspective on new OLI advantages. *International Business Review*, 32(4), 102135.
- Birkinshaw, J. (2022). Move fast and break things: Reassessing IB research in the light of the digital revolution. *Global Strategy Journal*, 12(4), 619–631.
- Brouthers, K. D., Chen, L., Li, S., & Shaheer, N. (2022). Charting new courses to enter foreign markets: Conceptualization, theoretical framework, and research directions on non-traditional entry modes. *Journal of International Business Studies*, 53(9), 2088–2115.
- Cha, H., Kotabe, M., & Wu, J. (2023). Reshaping Internationalization Strategy and Control for Global E-Commerce and Digital Transactions: A Hayekian Perspective. *Management International Review*, 63(1), 161–192.
- Chan, P., Finnegan, C., & Sternquist, B. (2011). Country and firm level factors in international retail expansion. *European Journal of Marketing*, 45(6), 1005–1022.
- Colton, D. A., Roth, M. S., & Bearden, W. O. (2010). Drivers of international e-tail performance: The complexities of orientations and resources. *Journal of International Marketing*, 18(1), 1–22.
- Digital Commerce 360 (2021). Digital Commerce 360 Research & Data. Retrieved 20.06.2023, from <https://www.digitalcommerce360.com/about-our-research/>
- Cumming, D., Johan, S., Khan, Z., & Meyer, M. (2023). E-Commerce Policy and International Business. *Management International Review*, 63(1), 3–25.
- Dimitrova, B. V., Kim, S., & Smith, B. (2019). Performance of International Retailers: Empirical Evidence of an S-Curve Relationship. *Journal of Global Marketing*, 32(3), 154–176.
- Dong, Y., He, X., & Blut, M. (2024). How and when does digitalization influence export performance? A meta-analysis of its consequences and contingencies. *International Marketing Review*, 41(6), 1388–1413.
- Dow, D., & Larimo, J. (2009). Challenging the conceptualization and measurement of distance and international experience in entry mode choice research. *Journal of International Marketing*, 17(2), 74–98.
- ECDB (2024a). Country Ranking. Retrieved 01.02.2024, from <https://ecommercedb.com/ranking/markets/country/all>
- ECDB (2024b). Store Ranking. Retrieved 01.02.2024, from <https://ecommercedb.com/ranking/stores/ww/all>
- Eduardsen, J., Marinova, S., Leonidou, L. C., & Christodoulides, P. (2023). Organizational Influences and Performance Impact of Cross-Border E-Commerce Barriers: The Moderating Role of Home Country Digital Infrastructure and Foreign Market Internet Penetration. *Management International Review*, 63(3), 433–467.
- Elbanna, S., Hsieh, L., Child, J., Narooz, R., Marinova, S., Puthusserry, P., Karmowska, J., Tsai, T., & Zhang, Y. (2024). Foreign market involvement, entry-mode learning potential and SME internationalization outcomes. *Management Decision*, 62(1), 301–325.
- Evans, J., Mavondo, F. T., & Bridson, K. (2008). Psychic distance: Antecedents, retail strategy implications, and performance outcomes. *Journal of International Marketing*, 16(2), 32–63.
- Fleury, A., Fleury, M. T. L., Oliveira, L., & Leao, P. (2024). Going digital EMNEs: The role of digital maturity capability. *International Business Review* (p. 102271). In Press.

- Giachetti, C., Manzi, G., & Colapinto, C. (2019). Entry mode degree of control, firm performance and host country institutional development: A meta-analysis. *Management International Review*, 59(1), 3–39.
- Gielens, K., & Dekimpe, M. G. (2001). Do international entry decisions of retail chains matter in the long run? *International Journal of Research in Marketing*, 18(3), 235–259.
- Goldman, S. P., van Herk, H., Verhagen, T., & Weltevreden, J. W. (2021). Strategic orientations and digital marketing tactics in cross-border e-commerce: Comparing developed and emerging markets. *International Small Business Journal*, 39(4), 350–371.
- Gong, C., He, X., & Lengler, J. (2024). Internationalisation through digital platforms: a systematic review and future research agenda. *International Marketing Review*, 41(5), 938–980.
- Gregory, G. D., Ngo, L. V., & Karavdic, M. (2019). Developing e-commerce marketing capabilities and efficiencies for enhanced performance in business-to-business export ventures. *Industrial Marketing Management*, 78, 146–157.
- Hånell, S. M., Nordman, E. R., Tolstoy, D., & Özbek, N. (2020). “It’s a new game out there”: E-commerce in internationalising retail SMEs. *International Marketing Review*, 37(3), 515–531.
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*, 46(6), 1251–1271.
- Hernández, V., & Nieto, M. J. (2015). The effect of the magnitude and direction of institutional distance on the choice of international entry modes. *Journal of World Business*, 50(1), 122–132.
- Ho, S.-C., Kauffman, R. J., & Liang, T.-P. (2007). A growth theory perspective on B2C e-commerce growth in Europe: An exploratory study. *Electronic Commerce Research and Applications*, 6(3), 237–259.
- Hox, J. J., Moerbeek, M., & Van de Schoot, R. (2018). *Multilevel analysis: Techniques and applications*. Routledge.
- Hua, L., & Wu, Y. (2024). Strategic analysis of vertical integration in cross-border e-commerce logistics service supply chains. *Transportation Research Part e: Logistics and Transportation Review*, 188, 103626.
- Ipsmiller, E., Dikova, D., & Brouthers, K. D. (2022). Digital Internationalization of Traditional Firms: Virtual Presence and Entrepreneurial Orientation. *Journal of International Management*, 28(4), 100940.
- Janjevic, M., & Winkenbach, M. (2020). Characterizing urban last-mile distribution strategies in mature and emerging e-commerce markets. *Transportation Research Part a: Policy and Practice*, 133, 164–196.
- 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.
- Kaufman, R. L. (1996). Comparing effects in dichotomous logistic regression: A variety of standardized coefficients. *Social Science Quarterly*, 77(1), 90–109.
- Kirca, A. H., Hult, G. T. M., Roth, K., Cavusgil, S. T., Perry, M. Z., Akdeniz, M. B., Deligonul, S. Z., Mena, J. A., Pollitte, W. A., & Hoppner, J. J. (2011). Firm-specific assets, multinationality, and financial performance: A meta-analytic review and theoretical integration. *Academy of Management Journal*, 54(1), 47–72.
- Kirca, A. H., Roth, K., Hult, G. T. M., & Cavusgil, S. T. (2012). The role of context in the multinationality-performance relationship: A meta-analytic review. *Global Strategy Journal*, 2(2), 108–121.
- Kishore, R., Agrawal, M., & Rao, H. R. (2004). Determinants of sourcing during technology growth and maturity: An empirical study of e-commerce sourcing. *Journal of Management Information Systems*, 21(3), 47–82.
- Lalla, M. (2017). Fundamental characteristics and statistical analysis of ordinal variables: A review. *Quality & Quantity*, 51(1), 435–458.
- Li, L., & Li, G. (2023). Integrating logistics service or not? The role of platform entry strategy in an online marketplace. *Transportation Research Part e: Logistics and Transportation Review*, 170, 102991.
- Li, P.-Y., & Meyer, K. E. (2009). Contextualizing experience effects in international business: A study of ownership strategies. *Journal of World Business*, 44(4), 370–382.
- Marsh, H. W., Lüdtke, O., Robitzsch, A., Trautwein, U., Asparouhov, T., Muthén, B., & Nagengast, B. (2009). Doubly-latent models of school contextual effects: Integrating multilevel and structural equation approaches to control measurement and sampling error. *Multivariate Behavioral Research*, 44(6), 764–802.

- Maydeu-Olivares, A. (2017). Maximum likelihood estimation of structural equation models for continuous data: Standard errors and goodness of fit. *Structural Equation Modeling: A Multidisciplinary Journal*, 24(3), 383–394.
- Meyer, K. E., Li, J., Brouthers, K. D., & Jean, R.-J.B. (2023). International business in the digital age: Global strategies in a world of national institutions. *Journal of International Business Studies*, 54(4), 577–598.
- Miller, S. R., Lavie, D., & Delios, A. (2016). International intensity, diversity, and distance: Unpacking the internationalization–performance relationship. *International Business Review*, 25(4), 907–920.
- Mithani, M. A. (2023). Scaling digital and non-digital business models in foreign markets: The case of financial advice industry in the United States. *Journal of World Business*, 58(4), 101457.
- Mohr, A., & Batsakis, G. (2018). Firm resources, cultural distance and simultaneous international expansion in the retail sector. *International Business Review*, 27(1), 113–124.
- 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.
- Morschett, D., Schramm-Klein, H., & Swoboda, B. (2010). Decades of research on market entry modes: What do we really know about external antecedents of entry mode choice? *Journal of International Management*, 16(1), 60–77.
- Nambisan, S., & Luo, Y. (2022). *The digital multinational: Navigating the new normal in global business*. MIT Press.
- Nath, P., Nachiappan, S., & Ramanathan, R. (2010). The impact of marketing capability, operations capability and diversification strategy on performance: A resource-based view. *Industrial Marketing Management*, 39(2), 317–329.
- O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & Quantity*, 41(5), 673–690.
- Oh, C. H., Sohl, T., & Rugman, A. M. (2015). Regional and product diversification and the performance of retail multinationals. *Journal of International Management*, 21(3), 220–234.
- Putzhammer, M., Puck, J., & Lindner, T. (2020). Changes in foreign operation modes: A review and research agenda. *International Business Review*, 29(1), 101619.
- Rothaermel, F. T., Kotha, S., & Steensma, H. K. (2006). International market entry by US internet firms: An empirical analysis of country risk, national culture, and market size. *Journal of Management*, 32(1), 56–82.
- Schu, M., & Morschett, D. (2017). Foreign market selection of online retailers—A path-dependent perspective on influence factors. *International Business Review*, 26(4), 710–723.
- Schu, M., Morschett, D., & Swoboda, B. (2016). Internationalization speed of online retailers: A resource-based perspective on the influence factors. *Management International Review*, 56(5), 733–757.
- Schwens, C., Zapkau, F. B., Bierwerth, M., Isidor, R., Knight, G., & Kabst, R. (2018). International entrepreneurship: A meta-analysis on the internationalization and performance relationship. *Entrepreneurship Theory and Practice*, 42(5), 734–768.
- Shi, Y., Lim, J. M., Weitz, B. A., & France, S. L. (2018). The impact of retail format diversification on retailers' financial performance. *Journal of the Academy of Marketing Science*, 46(1), 147–167.
- Sinkovics, N., Sinkovics, R. R., & Jean, R.-J. (2013). The internet as an alternative path to internationalization? *International Marketing Review*, 30(2), 130–155.
- Stallkamp, M., Chen, L., & Li, S. (2023). Boots on the ground: Foreign direct investment by born digital firms. *Global Strategy Journal*, 13(4), 805–829.
- Surana, A., Chavan, M., Kumar, V., & Chirico, F. (2024). The internationalization process: A contextual analysis of Indian ibusiness firms. *International Business Review* (p. 102255). In Press.
- Swoboda, B., & Elsner, S. (2013). Transferring the retail format successfully into foreign countries. *Journal of International Marketing*, 21(1), 81–109.
- Swoboda, B., & Sinning, C. (2022). Effects of Internationalization Rhythm and Speed on E-Commerce Firms' Growth and the Role of Institutional Distances. *Management International Review*, 62(2), 169–201.
- Tang, R. W., & Gudergan, S. P. (2018). A Meta-analysis of the international experience–ownership strategy relationship: A dynamic capabilities view. *Management International Review*, 58(4), 541–570.

- Tolstoy, D., Jonsson, A., & Sharma, D. D. (2016). The influence of a retail firm's geographic scope of operations on its international online sales. *International Journal of Electronic Commerce*, 20(3), 293–318.
- Tolstoy, D., Nordman, E. R., Hånell, S. M., & Özbek, N. (2021). The development of international e-commerce in retail SMEs: An effectuation perspective. *Journal of World Business*, 56(3), 101165.
- Tolstoy, D., Nordman, E. R., & Vu, U. (2022). The indirect effect of online marketing capabilities on the international performance of e-commerce SMEs. *International Business Review*, 31(3), 101946.
- Tolstoy, D., Hånell, S. M., & Özbek, N. (2023). Effectual market creation in the cross-border e-commerce of small-and medium-sized enterprises. *International Small Business Journal*, 41(1), 35–54.
- UNCTAD (2024). UNCTAD B2C E-commerce Index. Retrieved 01.08.2024, from <https://prosperitydata360.worldbank.org/en/dataset/UNCTAD+B2C>
- Wan, C., Sousa, C. M., Lengler, J., & Tan, Q. (2023). Entry Mode Choice: A Meta-Analysis of Antecedents and Outcomes. *Management International Review*, 63(2), 193–246.
- Wang, Q., Liu, X., Hu, M., & Huo, B. (2024). A reductionistic or holistic approach? The impacts of fit patterns of supplier and customer integration on company and supply chain performance. *International Journal of Production Economics*, 273, 109265.
- Wang, S., Mao, J.-Y., & Archer, N. (2012). On the performance of B2B e-markets: An analysis of organizational capabilities and market opportunities. *Electronic Commerce Research and Applications*, 11(1), 59–74.
- Winship, C., & Mare, R. D. (1984). Regression models with ordinal variables. *American Sociological Review*, 49(4), 512–525.
- World Bank (2023). World Development Indicators. Retrieved 01.12.2023, from <https://databank.worldbank.org/source/world-development-indicators>
- About You (2021). ABOUT YOU expands warehouse network with location in Slovakia. Retrieved 20.06.2023, from <https://corporate.aboutyou.de/en/presse/about-you-erweitert-lager-netzwerk-um-standort-in-der-slowakei>

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.