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A systematic review of the relationship between international diversification and innovation: a firm-level perspective

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Abstract

We conduct a systematic review of the relationship between international diversification (ID) and firm-level innovation (I), considering articles published between 1989 and 2020. The relationship between international diversification and innovation strategies is dynamic and complex, and recent evidence challenges the traditional notion that upgrading firm-specific advantages through technological innovation can be sufficient to guarantee international firm growth and performance. We develop a unified framework that integrates findings from extant ID-I research while also proposing new avenues for further research on topics such as: how firms deal with potentially conflicting ID-I goals, how underlying firm motives shape the interactions between these goals, and how new technologies and institutional dynamism increasingly influence the ID-I relationship. We also discuss how and why the new contexts in which decisions are made, together with the prevalence of relatively newer types of firms (e.g., those associated with global value chains, latest wave of emerging market multinationals, digitalized service MNEs), require a more modern conceptualization of the ID-I relationship.

Keywords:

International diversification (ID); Innovation (I); Multinational enterprises (MNEs); ID-I performance; Dynamic MNE decisions; Systematic review

1. Introduction

From its inception, international business (IB) research has examined why and, importantly, how, initially domestic firms engage in international diversification (ID). Scholars have always placed particular emphasis on the role of a firm's "ownership advantages" (Dunning, 1977) or "firm-specific advantages" (FSAs) (Rugman, 1981) - largely pertaining to innovation (I) - for overcoming the inherent difficulties associated with operating across national borders.

However, the modern multinational enterprise (MNE) needs to successfully navigate through today's global environment that is mainly shaped by volatility, uncertainty, complexity, and ambiguity (VUCA) (e.g., Clegg, Voss & Chen, 2019; van Tulder, Verbeke & Jankowska, 2019). Parallel to understanding the challenges of operating across diverse social, political, and economic environments, the ever-shortening product life cycles, and increased application of digital technologies (Banalieva & Dhanaraj, 2019), we emphasize the need to understand how firms can remain competitive and reduce their exposure to VUCA through constant innovation. Furthermore, new types of MNEs have emerged: we now study firms in both developed and emerging markets; large, established MNEs together with international new ventures and 'born globals'; as well as firms which are responsible for different value chain activities, be they industrial suppliers or lead MNEs. New contexts in which decisions are made and new types of firms, we propose, increasingly challenge our understanding of the nature of the ID-I relationship. Notable examples of companies such as the Chinese technology giant *Huawei*, suggest that, in fact, high levels of innovation and international diversification do not always guarantee international success, as firms need to attain legitimacy in the eyes of their local stakeholders, in order to reduce host market uncertainty.

While a substantial body of literature has emerged drawing on insights from IB and innovation studies to understand ID-I relationships (Anand, McDermott, Mudambi & Narula, 2021; Kafouros, Buckley, Sharp & Wang, 2008; Knight & Cavusgil, 2004), there has been

surprisingly little effort towards synthesizing and, importantly, updating our practical and conceptual understanding about the highly complex relationship between ID and innovation. Comprehensive literature reviews exist on either ID (Hitt, Tihanyi, Miller & Connelly, 2006; Surdu & Mellahi, 2016) or innovation (Crossan & Apaydin, 2010; Dziallas & Blind, 2019), with few studies considering both aspects of strategic firm behavior (see Love & Roper, 2015; Papanastassiou, Pearce & Zanfei, 2020). Synthesizing ID-I research is timely and important in order to offer scholars a holistic understanding of how innovation-related choices fit within a modern firm's objectives to become (more) internationally diversified, and vice versa.

In this study, we systematically review 154 studies published in leading IB and general management journals between 1989 and 2020. We define ID as the firm's decision to expand "the sales of its goods and services across the borders of global regions and countries into different geographic locations or markets" (Hitt, Ireland & Hoskisson, 2007: 251). Moreover, we follow Damanpour's definition of innovation (1991: 556) and view it as "the generation, development, and implementation of new ideas or behaviors. [It] can be a new product or service, a new production process technology, a new structure or administrative system, or a new plan or program pertaining to organizational members." Notably, by treating the internationally operating and innovating firm as our single, holistic unit of analysis, our study complements current papers and reviews on the reverse knowledge transfer in MNEs and the intra- and inter-firm relationships associated with knowledge generation through locally dispersed research and development (R&D) units (e.g., Dunning & Lundan, 2009; Kafouros, Wang, Mavroudi, Hong & Katsikeas, 2018; Papanastassiou et al., 2020).

Our review unveils that early ID-I work examined (1) how innovation - conceptualized as a domestically developed FSA - drives international diversification and (2) how, once a firm is international, it can use its knowledge and experience to further innovate. Over time, scholars have moved on to study more dynamic and bi-directional ID-I relationships, examining how

ID and I reinforce one another (Golovko & Valentini, 2011) or even compete for scarce firm resources (Kriz & Welch, 2018). We identified scholarly efforts towards understanding other (e.g., firm, institutional) factors that affect ID-I relationships, some of which challenge the notion that innovation *per se* is beneficial for ID success. Whilst extant reviews tend to have a narrower focus, such as innovation and exporting in small- and medium-sized enterprises (SMEs) (Love & Roper, 2015) or internationalized R&D amongst large MNEs (Papanastassiou et al., 2020), we synthesize how ID-I research has unfolded over time and various contexts.

Our findings reveal the depth of knowledge which has been accomplished over the years, with scholars employing various proxies for each (ID and I) construct, but they also pinpoint to a current lack of research breadth. Studies have neglected important organizational realities e.g., heterogeneity in organizational goals (Gaba & Greve, 2019), and the idiosyncrasies associated with the new "breed" of modern MNEs (Brouthers, Geisser & Rothlauf, 2016).

This article offers a unified framework that emphasizes key empirical and conceptual research gaps, setting out a future research agenda. We reflect on key research gaps and opportunities for further research in theory development, research context, research characteristics and methodologies employed. Our framework therefore highlights opportunities for both theory and empirical development, which, we hope, will serve to update, and advance research on the complex ID-I relationship. In the remainder of the paper, we explain our methodological approach, detailing each step of our systematic literature search and analysis. We then present our findings, which are organized into three main themes - for each theme we offer a concise literature review, followed by a discussion concerning research gaps and possibilities for more theoretical and empirical advancements in that area. We conclude with a discussion of our review's key findings and suggest avenues for future scholars who may choose to respond to our call about expanding the breadth of research on the ID-I relationship.

2. Methods and Results

To reduce researcher bias, we followed a step-by-step systematic review approach (Briner & Denyer, 2012). In line with the guidelines provided by Briner and Denyer (2012), and as detailed in *Figure 1*, we: planned and structured the search; evaluated studies against pre-determined criteria; analysed and coded studies; and reported key results.

--- Figure 1 ---

2.1. Planning and data search

We followed previous review articles (Srivastava, Singh & Dhir, 2020; Surdu & Mellahi, 2016). Given our goal to synthesize the ID-I literature in IB and management, we included leading IB and management journals in the Academic Journal Guide 2018, 3, 4 and 4*. Following Surdu and Mellahi (2016), we searched the following journals: *Academy of Management Journal (AMJ), Academy of Management Review (AMR), Journal of Management (JOM), International Business Review (IBR), Journal of Management Studies (JMS), Journal of International Business Studies (JIBS), Journal of International Management (JIM), Journal of World Business (JWB), Management Science (MS), Management International Review (MIR), Organization Science (OS), Organization Studies (OSS) and Strategic Management Journal (SMJ).* We focused on data sources which attract scholars to submit their best-quality ID-I research; selecting leading journals is the conventional data search method in IB and management review studies (see also Ipsmiller, Brouthers & Dikova, 2019; Kano, Tsang & Yeung, 2020).

Next, we conducted an issue-by-issue search, and manually searched each selected journal outlet, identifying studies published between January 1989 and January 2020. The year 1989 marks the publication year of several influential studies, linking innovation-related activities with ID (see Geringer, Beamish & daCosta, 1989; Kim, Hwang & Burgers, 1989; Kimura, 1989). For instance, Geringer et al. (1989) extended Rumelt's (1974) seminal categorization of

product-related choices to the realms of IB. Likewise, the year 1989 marks a time when IB scholars recognized that MNEs were more diverse (e.g., Bartlett & Ghoshal, 1989; Cantwell, 1989), in terms of their R&D and innovation efforts. Overall, reviewing the past 30 years of ID-I research allows us to examine how the extant state of knowledge has evolved over time.

Indeed, while some reviews rely on keyword searches to identify studies (Jormanainen & Koveshnikov, 2012; Kano et al., 2020), we deemed a manual issue-by-issue search more appropriate, given the varying terminologies and the multifaceted nature of both of our main constructs. IB scholars use various terms to describe international diversification, including "internationalization", "geographic diversification", "international expansion", "globalization", and "multinationality" (Hitt et al., 2006). At the same time, there is terminological ambiguity surrounding innovation, which includes different tasks, stages and outcomes (Crossan & Apaydin, 2010). In the final sample, we selected studies which, in their titles, abstracts, and/or introductions suggested a clear focus on the interplay between our key constructs, namely, ID (and related terms) and innovation (and related terms). Overall, the structured search produced 265 articles, further subjected to our inclusion/exclusion criteria.

2.2. Evaluating studies against the inclusion criteria

We included articles that clearly focused on (in the case of theoretical/review papers) or tested (in the case of empirical studies) the ID-I relationship. We searched for and selected studies that considered a direct relationship between ID and I or used one of the constructs as a key moderating or mediating variable (Kano et al., 2020). Where studies did not explicitly state our constructs of interest in their titles or abstracts, we carefully read their introductions and methodology sections. For example, some studies examined the role of 'intangible assets' or 'firm-specific assets' for a firm's international activities (e.g., Kimura, 1989; Kirca et al., 2011) and while this did not directly resemble the construct of 'innovation', we learned by reading

their method sections, that 'R&D intensity' or 'technological innovation' were proxies for firm-specific assets; we therefore included those studies in the final sample.

To capture the breadth of ID-I research, we included studies focusing on innovative activities pre and post foreign market entry. We included studies focusing on single as well as multiple entry modes. Also, given that exporting is an important means of ID, particularly amongst SMEs (Ferreras-Méndez, Fernández-Mesa & Alegre, 2019), we included such studies as well. Since product diversification enables the firm to grow by increasing and enhancing its product markets through innovation (Golovko & Valentini, 2011; Kumar, 2009), we included not only studies on ID-I, but also those on ID, innovation and product diversification as well as those specifically looking at the link between ID and product diversification.

We excluded (1) studies that considered either innovation or ID, but not the relationship between them; (2) studies that considered a unit of analysis other than the firm, i.e. individual business functions, subsidiaries, business groups, industries or country-level innovation; hence, we excluded studies on the internationalization and geographic dispersion of R&D units, as well as studies on reversed knowledge transfer (Ambos, Ambos & Schlegelmilch, 2006; Sanna-Randaccio & Veugelers, 2007) and studies solely focused on joint ventures and alliances[1]; (3) studies focused on 'open innovation' and 'business model innovation' – which are still conceptual abstractions (Foss & Saebi, 2018). The final sample consisted of 154 articles.[2]

2.3. Analyzing and coding the data

The authors read and coded an equal share of the sampled articles. The coding scheme, created and stored in MS Excel, was organized as follows: article title; authors; journal outlet; year of

[1] We included five studies where the theoretical arguments were based on the firm-level but where the authors extrapolated their empirical findings to the firm-level, e.g., by using firm-level control variables from subsidiary-level analysis.
[2] Whereas incorporating specialist innovation journals is beyond the scope of this review, we identified articles published in some specialist journals (e.g., Technovation, Research Policy) which have been highly influential in shaping ID-I research, and thus, highly cited in international business and management journals (e.g., Kafouros et al., 2008; 2018). Importantly also, throughout the paper, we discuss how contributions published in more innovation-oriented journals can help advance research.

publication; citation number; theoretical lens used; method; key variables (organized into dependent, explanatory, moderating/ mediating and control variables); main article focus/theme; and key findings. The coding scheme was applied to each body of text i.e., academic article, to extract uniform and standardized information from it (Neuendorf, 2002). Using coding rules to extract the information from the sampled studies is common with systematic literature reviews (Hitt et al., 2006; Surdu & Mellahi, 2016) as coding rules help minimize the subjective interpretation of coders and enable researchers to summarize relevant findings in tables and graphs (Gaur & Kumar, 2017; Neuendorf, 2002). For coding accuracy, the authors cross-checked the coding of a random sub-sample of articles. We reduced the complexity of this body of research by bringing it down to three main ID-I relationships or *themes*. We categorized sampled articles into those examining: (1) A directional relationship, whereby innovation encourages ID (1a), or ID encourages innovation (1b); (2) A bi-directional and dynamic interdependence, whereby ID and I may act as either complements or substitutes; (3) A clear link between ID-I and other (e.g., performance-related) variables, whereby I or ID serve as key moderators/mediators. *Figure 2* illustrates the distribution of articles over time, based on the identified ID-I themes, while *Table 1* reveals the types of articles sampled.

--- Figure 2 and Table 1 ---

2.4. Results

In *Table 2*, we illustrate the pattern of publications over time. While there is a decline in interest in general management outlets, IB journals have witnessed a steady rise in ID-I articles, suggesting that the ID-I relationship has become, and is likely to stay, relevant to IB scholars. The reviewed literature is dominated by empirical studies, which account for 82% of our sample, whereby we note a strong tendency towards employing quantitative methodologies; predominantly, regression analyses of secondary data (see also *Table 1*). The citation analysis

conducted in *Tables 3 and 4* illustrates that ID-I research is driven by a few, prominent studies, and authors. This, as discussed later, reflects the focus on depth rather than breath of research.

--- Tables 2-4 ---

3. Three decades of research on international diversification (ID) and innovation (I)

As per *Figure 3*, we map the research domain pertaining to each ID-I theme, highlighting also important gaps. Building on the TCCM protocol developed by Paul and Rosado-Serrano (2019) (see also Srivastava et al., 2020), we then analyse and discuss research gaps and opportunities in terms of theory development (T), context (C), characteristics (C) and methodology (M).

--- Figure 3 ---

3.1. Theme 1: A one-directional lD-I relationship

3.1.1. Relationship 1a: From innovation to international diversification

Drawing on transaction cost economics (TCE), internalization theory, the resource-based view (RBV) or the eclectic paradigm[3], fifty-six studies examined how innovation impacts and drives international diversification (*Table 5*). Not surprisingly, early studies focused on large, mature firms from the Triad, showing that firm-level innovation determined their foreign market entry and performance abroad (Chang, 1995; Delios & Beamish, 1999; Pla-Barber & Alegre, 2007). Similar reasoning was extended to SMEs (Filatotchev, Liu, Buck & Wright, 2009; Liu, Lu, Filatotchev, Buck & Wright, 2010; Paul, Parthasarathy & Gupta, 2017) as well as young ventures, whose comparably early and rapid ID was largely ascribed to their unique knowledge assets and innovation capabilities (Autio et al., 2000; Coviello, 2015; Knight & Cavusgil, 2004). Additionally, focusing on emerging market *"second wave"* players, studies such as Bonaglia, Goldstein and Mathews (2007) suggested that technological and organizational (i.e.,

[3] A detailed analysis and/or critique of these theories is beyond the scope of the review as other review papers have done so; see Jormanainen & Koveshnikov (2012), Surdu & Mellahi (2016) and Surdu et al. (2018).

management) innovations fuelled these firms' accelerated internationalization and global competitiveness. These studies offered a complementary view to stage-based internationalization models (Johanson & Vahlne, 1977) in explaining a firm's internationalization path, as a function of firm innovation capabilities. In some cases (e.g., Liu et al., 2010), scholars added that managerial international can also affect firm innovation.

Over time, scholars questioned the generalizability of extant findings, increasingly pointing to the heterogeneity of firms as well as their institutional contexts (Singh & Gaur, 2013; Yi, Wang & Kafouros, 2013). The very assumption that innovation *per se* determines ID is challenged, with some authors even referring to a potential "liability of innovation" (Deng, Guo, Zhang & Wang, 2014). These ideas have led to more research on the multifaceted nature of 'innovation', and the need to offer a finer-grained analysis of its effect on ID strategies (e.g., Azar & Ciabuschi, 2017; Ferreras-Méndez et al., 2019). Below, we explain that more research is needed to understand if and how 'innovation' helps MNEs sustain and adapt their ID strategy, beyond merely encouraging (or, in some cases, hindering) ID.

--- Table 5 ---

3.1.2. Research Agenda - From innovation (I) to international diversification (ID)

Theory development: By conceptualizing a firm's innovation capabilities as FSAs, studies suggest that a firm develops innovation assets domestically and then - via a chosen entry mode - transfers and exploits them abroad, making 'innovation' an important *antecedent* to 'international diversification'. The prominent theoretical perspectives on internationalization, namely the Uppsala model and internalization theory, inform - in their numerous iterations (Johanson & Vahlne, 2009; Narula, Asmussen, Chi & Kundu, 2019) - much of the early, but also more recent works on I-ID; whereby a few studies have complemented them with other theoretical lenses, such as organizational learning or the knowledge-based view (Filatotchev &

Piesse, 2009; Love, Roper & Zhou, 2016). Given this theoretical standstill, we call for researchers to draw on a wider range of theoretical lenses to explain how and why a firm's strategic focus on innovation capabilities may not always encourage, but sometimes hinder, ID. Particularly problematic is that extant studies treat 'innovation' as an outcome (resulting from new products/technologies) rather than a process (Crossan & Apaydin, 2010). As such, future research on I-ID may nuance our understanding of innovation by incorporating ideas from innovation management and innovation diffusion literatures (Vargo, Akaka & Wieland, 2020), which recognize that for innovation to be effective and self-sustain, it needs to become widely adopted. Such research would shed light on how, for instance, innovations are communicated, over time, to individuals within social systems such as organizations.

Furthermore, we also found that extant studies and theories offer little insights into how innovation helps firms adjust and sustain their ID *post* market entry. Internationalized firms are thought to act and behave flexibly, resulting in idiosyncratic, diverse and dynamic firm behaviours (Hermans & Reyes, 2020; Puig, Madhok & Shen, 2020). Indeed, many firms use multiple entry modes simultaneously, exit and even re-enter foreign markets as well as form seemingly unconventional strategic alliances (Bamford, Baynham & Ernst, 2020; Surdu, Greve & Benito, 2020). Hence, we call for greater use of theoretical lenses that take organizational flexibility into account. For example, we find the lack of studies drawing on risk-oriented theories such as real options theory rather surprising, given their relevance for explaining firm (innovative) behaviour under uncertainty (Vanhaverbeke, Van de Vrande & Chesbrough, 2008). Theory development in I-ID should focus on enhancing our understanding of *dynamic* firm behaviours (Surdu et al., 2020); much like previous studies on cross-border R&D have successfully done (notably, see Kafouros et al., 2018).

Context: Most reviewed studies in this domain are in the context of manufacturing firms from developed markets, such as North America and the European Union. While there has been

some variation, with scholars focusing, for example, on digital service firms (Brouthers et al., 2016) and firms from emerging markets (Singh & Gaur, 2013; Yi et al., 2013), more research is needed to better understand across-context differences. For instance, the effect of innovation on ID may differ across manufacturing and service-based firms (Love & Mansury, 2009), but extant findings offer little scope to draw any conclusions. Likewise, there is growing evidence suggesting the rather 'unique' approach to innovation that exists in emerging markets (Anand et al., 2021) which demands further investigation to unveil the I-ID link in these contexts.

Characteristics: In terms of *outcomes* associated with innovation, we argue that more research should consider different types of outcomes as well as the potentiality for sub-optimal outcomes resulting from a focus on innovation strategies. I-ID studies are concerned with the propensity, speed, pattern, and performance of ID. Notably, internationalization speed and pattern have become prevalent in studies on "born global" firms and emerging market players (Bonaglia et al., 2007; Knight & Cavusgil, 2004). Yet, we found surprisingly few studies on how innovation determines, for instance, the choice of foreign entry mode. A notable exception is Campa and Guillén (1999) who, following TCE reasoning, found that R&D levels increased the likelihood to internalize export activities. Building on seminal works, future research could examine how innovation determines a firm's initial entry mode, as well as the subsequent potential changes to mode strategies. In this context, transaction-type FSAs - which are less tangible compared to asset-type FSAs such as R&D and which reflect a firm's ability to become and stay international (c.f. Narula, 2014) - require further attention. Similarly, the distinction between radical and incremental innovation (Freixanet & Rialp, 2021) may be worth exploring, as incremental innovations may, for instance, favour exporting as the primary entry mode, while radical innovations may encourage FDI, with firms entering via their own subsidiaries.

Likewise, more research is needed to better understand the common (internal and external) barriers to innovate and internationally diversify in the first place. In addition to examining

outcomes, we therefore need more research on *antecedents*, whereby scholars can build on studies on firm motives to innovate and expand abroad (Cuervo-Cazurra, Narula & Un, 2015).

Methodology: We also identified opportunities for scholars to introduce more breath to the methodological approaches employed. Future studies can leverage recent advancements in theory-based ID measurements, such as the ratio of international market shares (RIMS), which may be particularly relevant in the context of firms from relatively large home-markets, such as the U.S., Germany or China, as it measures the extent to which a firm has penetrated foreign markets *relative* to its primary market (Marshall, Brouthers & Keig, 2020). Developing new and more nuanced measurements is important because it allows researchers to capture, for instance, the extent to which a firm's innovative capabilities really drive ID, thereby offering opportunities for better understanding this (seemingly) one-directional I-ID relationship.

3.1.3. Relationship 1b: From international diversification (ID) to innovation (I)

Drawing on organizational learning (Levitt & March, 1988), knowledge based (Kogut & Zander, 1992) and evolutionary theories (Nelson & Winter, 1982), thirty-three articles studied the effect of ID on innovation (I) (*Table 6*). Scholars argued that "diverse inputs are often required to develop innovation", which is facilitated through activities across different geographic locations (Hitt et al., 1997: 774; Hitt et al., 2006). Specifically, scholars have linked different forms of ID, ranging from exporting to FDI, to different aspects of I, including product innovations (Subramaniam & Venkatraman, 2001) and patents (e.g., Almeida, 1996). For emerging market firms in particular, ID offers opportunities to escape weak domestic institutions and access knowledge abroad to boost innovation (Luo & Tung, 2007); the *lack* of innovation resources/FSAs may incentivize ID (Zander, McDougall-Covin & Rose, 2015).

However, as suggested by Barkema and Vermeulen (1998) and later Zahra and colleagues (2000), firms' opportunities to learn from their international activities may be subject to heterogenous organizational constraints as well as *a priori* strategic choices such as entry

mode. In some studies, exporting, for example, is conceptualized as a form of *learning-by-doing* (c.f. Love & Ganotakis, 2013: 15). Some progress has been made towards understanding why some firms are better at 'learning' from being internationally diversified; in particular, IB studies have paid more attention to how firms engage in effective knowledge *transfer* (Cano-Kollmann, Cantwell, Hannigan, Mudambi & Song, 2016). In turn, we found that less emphasis is placed on how firms *search* for knowledge abroad in the first place; an exception being the study by Li, Li, Goerzen and Shi (2018) which shows that firms may search for knowledge 'closely', by interacting more with their extant foreign alliance partners. Hence, recognizing that internationalizing firms constantly change and evolve (Vahlne & Johanson, 2017), below we call for more research on the firm-specific mechanisms through which multinational firms access valuable knowledge abroad to eventually become, overall, more innovative.

--- Table 6 ---

3.1.4. Research Agenda - From international diversification to innovation

Theory development: Indeed, operating and selling in foreign locations offers firms the opportunity to access and develop important market and technological knowledge, which, in turn, can enhance innovation (Ambos, Ambos & Schlegelmilch, 2006; Driffield, Love & Yang, 2016). Yet, in much of the reviewed literature, it is taken for granted that an international footprint translates into greater innovation efforts/performance. Studies taking on an organizational learning perspective assume that firms automatically 'learn' from their experience and activities abroad (Love & Ganotakis, 2013). We argue that learning from international activities may not be as straightforward and may be subject to important firm-specific characteristics, such as a firm' governance. For instance, we only found one study which, based on agency theory, showed that family ownership mitigated the agency problem and, hence, strengthened the positive relationship between ID and innovation (see Tsao & Lien,

2013). Building on this research, we call for more studies examining the role of firm-specific factors, such as a firm's governance structure on the nature of the ID-I relationship.

We also call for more research on the organizational conditions which may hamper (rather than foster) internationalized firms from becoming more innovative. From a behavioural view of the firm (Cyert & March 1963), firms are often in a state of *quasi-resolution of conflict*. Namely, behavioral theorists recognize that firms engage in internal negotiations, and as such, firms pursue different organizational goals through forming coalitions that represent temporary compromises. Over time, coalitions become stronger and give rise to organizational politics (Gavetti, Greve, Levinthal & Ocasio, 2012). This aspect has found little consideration in reviewed studies which focus more on the firm-specific factors that *strengthen* the ID-I link. In contrast, past literature on reverse knowledge transfer in MNEs has taken organizational frictions and tensions into account, highlighting the (sometimes) diverging goals and unwillingness to share knowledge between the parent and its subsidiaries (Gupta & Govindarajan, 2000; Mudambi & Navarra, 2004; Mudambi, Piscitello & Rabbiosi, 2013). Future research may benefit from drawing on behavioural theory, including the literature on dominant coalitions, to understand why, only in some cases, ID leads to subsequent innovation.

Context: As with the previously discussed I-ID relationship, most studies consider how large, mature MNEs benefit from their international footprint in terms of their subsequent innovation. Fewer, but an increasing number of, studies examine ID-I in the context of international new ventures (INVs) or 'born global' firms (Zahra et al., 2000). Context is important as smaller and younger firms have on the one hand less resource slack, whilst on the other, more organizational flexibility (Narula, 2004) and hence, they experience different learning effects from ID. The notion of resource availability is relevant here, as abundant resources may both foster creativity (and, therefore, innovation) as well as hamper it (Nohria & Gulati, 1996). We note that INVs and 'born globals' may turn to more unconventional and

creative means of harnessing the knowledge accessed from ID. Lacking the resources to follow up on new innovation projects, firms may resort to strategies such as *bricolage*, thereby "making do by applying combinations of the resources at hand to new problems and opportunities" (Baker & Nelson, 2005:333). If these firms are, indeed, examples of how to innovate and diversify with limited resources, how INVs and born global firms access and integrate international knowledge to become more innovative offers scope for future research.

Characteristics: The literature takes the learning effects from ID as an almost certain innovation source. Indeed, extant studies highlight the experiential learning effects which are accumulated over time by firms which become (increasingly) internationally diversified (Levitt & March 1988). The underlying assumption is that the focal firm succeeds at its international diversification strategy, which in turn is expected to translate into superior innovation. Yet, there are many risks associated with ID, and failure resulting in foreign market exit is increasingly common. Across our entire sample, we found a single study on the link between innovation and foreign market exit (i.e., Tan & Sousa, 2019). Whether a firm perceives a particular event or strategy as successful or as a failure, has important implications for subsequent learning, with some scholars arguing that firms, in fact, learn more effectively from failures than from successful experiences (Gong, Zhang & Xia, 2017). Hence, researchers may turn their attention towards studying post entry strategies of firms such as foreign market exit or partial divestment and their effects on the subsequent innovation behaviour of firms.

Likewise, previously exited markets may be re-entered by some firms (e.g., Surdu, Mellahi & Glaister, 2019) which offers an opportunity for future research to further consider the effects of re-entry on a firm's subsequent innovation efforts and capabilities. Specifically, it would be interesting to unveil changes (if any) in a firm's innovation strategy, in accordance with its re-entry attempt. For instance, future studies can examine whether a firm has, indeed, learned

from its previous failure (or not), and whether it re-entered the international market with a new or adapted product; potentially also using a different entry mode (Surdu et al., 2019).

Methodology: To advance research on the seemingly one-directional link between ID and innovation, we propose that more longitudinal research designs are needed. We note that capturing one single point in time, as achieved through cross-sectional data, does not allow for a clear understanding of the *dynamic* interplay between different international activities, organizational learning and innovation (Gkypali, Love & Roper, 2021). Organizational learning and firm evolution are cumulative in nature, and both take time (Levitt & March, 1988; Nelson & Winter, 1982). Hence, longitudinal quantitative and qualitative research designs will contribute towards a finer-grained understanding of the ID-I relationship.

3.2. Theme 2: A dynamic ID-I relationship

Another stream of ID-I research focuses on how a firm's ID and innovation choices do not unfold in isolation, but rather interact and inform one another, thereby suggesting a *dynamic* ID-I link (Buckley & Casson, 2009; Jones & Coviello, 2005). Scholars (Lu & Beamish, 2001; Golovko & Valentini, 2011) examined whether innovation-related growth, e.g., through the introduction of new products, is complementary or, in fact, substitutive to ID (*Table 7*). Some studies reported a complementary effect, highlighting either that both strategies use the same firm resources and capabilities, or that for some highly innovative products, domestic demand may be so scarce that foreign expansion is inevitable (Golovko & Valentini, 2011; Oesterle, 1997). Others emphasized the trade-off between ID and I, by explaining that the costs of developing and maintaining foreign sales markets increase with geographic overdiversification - due to limited managerial capacity - which negatively affects profitability and innovation (Geringer et al., 1989; Hitt et al., 1994; Geringer, Tallman & Olsen, 2000; Kumar 2009). To this, Kyläheiko and colleagues (2011) explained that a *joint* strategy is most viable when domestic markets are limited; for example, due to the emerging and high-tech nature of a

product/innovation. Kriz and Welch (2018) added that reaping cross-border entrepreneurial opportunities (Reuber, Knight, Liesch & Zhou, 2018) may be challenging because, when products are nascent, they require substantial R&D funding and iterations, which hamper firms from generating long-term value from ID. Thus, scholars need to better understand the mechanisms that enable firms to effectively develop ID and innovation strategies.

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3.2.1. Research Agenda - A dynamic ID-I relationship

Theory development: We posit that studies in this domain may offer a more realistic view on how ID and I are managed within firms, but they currently lack a theoretical foundation to build upon (relying mostly on traditional theories). Reviewed studies largely take on either an internalization/TCE theoretical perspective or adopt a resource-based view, and in some cases, combine TCE and RBV rationales. Yet, a firm's extant resources and FSAs may not fully explain how firms successfully internationally grow *and* continue to innovate (Prange & Verdier, 2011). A more relevant, but (perhaps surprisingly) underused theoretical lens is the dynamic capabilities view (DCV; Teece, Pisano & Shuen, 1997). By focusing on how firms adapt their resources and capabilities, DCV lends itself to explain the joint interaction between ID and innovation. In fact, used in only one reviewed study (Fleury, Fleury & Borini, 2013), DCV is shown to be a suitable theoretical foundation due to its focus on a firm's continued ability to learn, integrate and most importantly, reconfigure – rather than exploit – resources and capabilities. Dynamic capabilities are particularly important for MNEs, as these firms operate in highly dynamic and competitive environments (Teece, 2007). A firm's so-called 'first-order' capabilities, i.e., its extant capabilities, may enhance its initial entry and performance abroad; but these capabilities will need to constantly change and evolve, requiring the firm to develop so-called 'second-order' capabilities, including learning, adapting,

changing, reorganizing and so on (Prange & Verdier, 2011: 127). A lack of second-order capabilities, we argue, may explain why some firms fail to achieve complementary effects between concurrent ID and I. Most firms may be particularly good at 'exploiting' their extant innovation resources and capabilities, but less so at changing and reconfiguring them.

Context: SMEs, born-global firms and MNEs from emerging and developed markets alike play dominant roles, suggesting the need for IB scholars to appreciate firm heterogeneity across several dimensions, including country of origin, size and age. We propose that firm motives – which differ amongst firms and contexts – contribute to our understanding of complementary versus substitutive ID-I effects. MNEs from emerging markets such as China, have classically followed a strategic asset-seeking motive to internationalize and escape their weaker domestic national innovation systems (Luo & Tung, 2007). This strategy has frequently been coupled with acquisitions of host market firms, which may have important learning implications, as 'buying' innovation differs from developing it, in that the knowledge transfer may be more complex and time-consuming (Bresman, Birkinshaw & Nobel, 1999). Strategic asset-seeking firms may then struggle to achieve complementary ID-I effects in the short- to medium-term.

Moreover, firms of different sizes and ages may follow different motives, with larger firms seeking to renew themselves and to stay competitive, while smaller and younger ventures may prioritise growth. As suggested by Prange and Verdier (2011), growth and survival may appear to be closely interlinked, but from a resource allocation point of view, they may be distinct and even paradoxical for some firms, raising the need for a nuanced understanding of the dynamic ID-I link in firms seeking primarily growth versus those focused on survival. We observed that ID and innovation as growth (as opposed to survival) strategies have attracted most attention in reviewed studies; particularly amongst relatively young and entrepreneurial firms (e.g., Kriz & Welch, 2018; Kyläheiko et al., 2011). Less is known about how ID and I interact in larger/ older firms focused on renewal and survival, e.g., through digital transformation; for these

firms, there may be more clear synergies to be realized between international diversification and innovation due to their existing networks, abundant resources and established reputation.

Characteristics: Reviewed studies downplay the underlying motives for firms to internationalize and to innovate in the first place. We argue that the current underappreciation of heterogenous firm motives, is, at least in part, responsible for the mixed findings concerning whether ID and innovation are complements or, in fact, substitutes. Firms may choose to innovate for numerous (non-exclusive) reasons, such as wanting to expand their product markets, reduce production costs, enhance quality or reduce reliance on externally sourced production factors (Belderbos, Carree & Lokshin, 2004; Webster, 2004). Different motives to innovate are accompanied by different innovation types, whereby market expansion, for example, may be best accomplished through product innovations and patents, whereas cost savings are often achieved through organizational or process innovations. Given firm heterogeneity, we propose that a better understanding of firm motives may contribute to a more nuanced depiction of complementary versus substitutive ID-I effects.

Methodology: Context particularly seems to matter for explaining the dynamic and bi-directional ID-I link across heterogeneous firms. Yet, many researchers following a more positivist tradition seeking to almost 'nullify' the role of context in order to (over)generalize their findings. To overcome this somewhat disregard for context that we identified in our sampled ID-I articles, we point towards the notable qualitative methodological advancements made by Welch and colleagues (2011). We particularly agree that integrating two (previously deemed as incompatible) features of the qualitative case study – namely, generating causal explanations *and* incorporating context - represents a very fruitful area for future research.

3.3. Theme 3: International diversification and innovation as moderators/mediators

Innovation, product diversification and ID were examined as key moderators/mediators in conjunction with other firm characteristics, such as performance, across thirty-three studies

(*Table 8*) (Bagheri, Mitchelmore, Bamiatzi & Nikolopoulos, 2019; Cassiman & Golovko, 2011; Kirca et al., 2011; Tallman & Li, 1996; Vermeulen & Barkema, 2002). Most articles focused on the moderating effect of innovation on the ID-performance relationship.

The evidence on whether innovation enhances ID performance is mixed. Some scholars found that ID enhances firm performance, *provided that* a firm possesses strong innovative capabilities (Kirca, Fernandez & Kundu, 2016; Lu & Beamish, 2004; Martin, Javalgi & Cavusgil, 2017). Yet, other scholars challenged the seemingly positive role of innovation on ID-performance, pointing to the importance of taking firm heterogeneity and appropriate measurement proxies into account. For example, Eckert, Dittfeld, Muche and Rässler (2010) and later Dittfeld (2017) clarified that the ID-performance relationship is dependent on the performance proxy employed. Dittfeld (2017) tested the ID-performance relationship - and the moderating effect of R&D - based on a past-oriented (accounting-based) measure of performance and a future-oriented (capital market-based) measure of performance; R&D intensity strengthened ID-capital market-based performance, and negatively affected ID-accounting-based performance. Contrastingly, studies such as Berry and Kaul (2016) did not find empirical support for the moderating effect of R&D intensity on ID-performance.

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3.3.1. Research Agenda - ID and innovation as moderators/mediators

Theory development: Studies in this domain rely on internalization/TCE and RBV reasoning as their underlying theoretical foundation (Kirca et al., 2016; Kirca et al., 2011). To advance research, here also, we suggest greater engagement with behavioral theory rationales, which offer a more realistic view on how managers make decisions. With its roots in the behavioral theory of the firm (Cyert & March, 1963) and in a wealth of notable research in psychology (Kahneman & Tversky, 1979), performance feedback theory (Greve, 2003) is a suitable

candidate to advance our understanding of the ID-I-performance relationship. From the perspective of performance feedback theory (PFT), when an organization performs below aspiration levels, the process of problemistic search is initiated (Greve, 1998), and an organization will seek to identify the motivation for under-performance, learn, improve its practices, and enhance performance at or above aspiration levels (see Greve and Teh, 2018 for an overview of PFT). The notion that firms and their actors are motivated by the goal of overcoming perceived performance shortfalls (Gavetti et al., 2012) has found little consideration in previous ID-I-performance studies. Future studies may examine ID-I, when performance targets are met, compared to when managers perceive a performance shortfall.

Context: Organizational (e.g., performance-related) goals can be highly idiosyncratic, depending on firm characteristics such as ownership, age or size (Cyert & March, 1963). For example, entrepreneurs in international new ventures mainly seek *firm growth*; hence, the appropriate performance measurement would be growth rate. Given that innovation allows firms to expand their product markets (Belderbos et al., 2004), one would expect a positive ID-I-performance link. Decision makers of publicly listed companies may be primarily driven by *stock price*, whereby sudden, large investments in R&D could come at the expense of short-term operational efficiency and profitability, lowering investor confidence, and suggesting a (temporary) negative ID-I-performance relationship. In contrast, managers of family firms, which are generally independent from external investors, might focus on their legacy, in which case innovation and ID efforts serve long-term *survival* goals. Overall, an understanding of differing organizational goals across firms has been largely absent from extant ID-I research.

Characteristics: The ID-I-performance relationship is of value to scholars, practitioners, and policymakers alike, as it enables important comparisons between firms along several dimensions (March & Sutton, 1997). At the same time, meaningful comparisons arise mainly from *similar* firms (Richard, Devinney, Yip & Johnson, 2009). Hence, measuring the

achievement of organizational goals may be a more appropriate alternative to a firm's performance outcomes, considering the increased heterogeneity observed amongst (and even within) firms e.g., fuelled by the uneven spread of access to modern technologies and the growing emergence of phenomena such as *platformization* and *ecosystems*, which represent major venues for innovation, value creation and delivery (Nambisan, Zahra & Luo, 2019).

We further note that the current neglect of organizational goals in favour of market- and accounting-based measures of performance contributes to the mixed findings concerning the ID-I-performance link. Popular profitability-related measures, such as return on assets (ROA), represent one type of organizational goal, and have clear merits, mainly due to data availability. However, they offer partial insights into the numerous goals that firms pursue (Greve, 2008). Organizational goals also change over time. While previous work in organization theory suggests that firms - when confronted with multiple goals - pay *sequential* attention to them, thereby having a clear priority ordering of goals (Greve, 2008), more recent efforts show that goals can be conflicting and have no set priority ordering (Gaba & Greve, 2019). This strand of knowledge can offer insights into how ID and I interact with firms' (multiple) goals.

Methodology: We recognize that the previously suggested theoretical and empirical advancements are subject to data availability. Given that most reviewed empirical articles in this domain rely on quantitative data analysis of mainly secondary data, there are ample opportunities for scholars conducting primary and survey-based research to develop relevant proxies and performance measurements, capturing a firm's underlying organizational goals. Additionally, to move beyond the prevailing bias towards studying technological innovation (Damanpour, Sanchez-Henriquez & Chiu, 2018), we point to valuable secondary data sources such as the European Community Innovation Survey (CIS) and the World Bank's Enterprise Survey (WBES) which offer cross-national data, including, but not limited to, factors such as a firm's *non-technological* innovation efforts.

4. Discussion and future research agenda

This review article maps out the conceptual and empirical landscape of ID-I research based on the analysis of 154 articles published in leading IB and management journals. Three themes emerged, namely (1) a one-directional ID-I relationship, (2) a bi-directional and dynamic ID-I relationship, and (3) an interdependent ID-I relationship. We offer an in-depth discussion of important research gaps, summarized in our unified framework (*Figure 3*). Following the TCCM protocol developed in previous papers (Paul & Rosado-Serrano, 2019), we proposed - for each identified theme - future research ideas to broaden the scope of ID-I scholarship.

Whilst scholarly efforts have resulted in a rich body of ID-I research, providing *depth* of knowledge, they have also contributed to conflicting findings. Research influenced by traditional lenses such as internalization theory, mainly suggests a positive and one-directional link between innovation and ID (Campa & Guillén, 1999; Chang, 1995; Filatotchev & Piesse, 2009; Pla-Barber & Alegre, 2007). In turn, an increasing number of studies explicitly challenge whether innovation *per se* leads to ID and performance (Deng et al., 2014; Yi et al., 2013). Others highlight the positive effect of innovation on ID-performance (Lu & Beamish, 2004), whereas more recent works find mixed evidence (Berry & Kaul, 2016; Dittfeld, 2017).

We therefore concluded that we lack *breadth* of knowledge as extant ID-I relationship research largely fails to explain more current, empirical phenomena. The emergence of digitalized service firms, such as Uber and Amazon, as well as latecomer companies from emerging markets, such as Huawei and Haier, challenge established ID-I understanding, which is largely based on Western manufacturing firms. For example, emerging market newcomers have caught up (and even surpassed) established, Western competitors based on their extensive (global) R&D efforts (Schaefer, 2020). At the same time, while players from emerging markets are both highly innovative and internationally diversified, they encounter international performance challenges, due to their relatively poor reputations. In a similar vein, for the

international success of digitalized service MNEs, it has been argued that reputation, alongside technology-based FSAs, matters significantly (Hennart, 2019), including to avoid the 'liability of innovation' (Deng et al., 2014). Following further crises and disruptions, firms and governments in host markets may turn to protectionist measures to slow down the expansion of "disruptive" innovators and safeguard the competitiveness of their domestic market players. Contextual dynamics together with heterogeneity amongst firms and their ID-I behaviors invite discussions on the potential 'liability of (too much?) innovation'.

Surprisingly also, none of the reviewed studies have considered the ID-I relationship in the context of global value chains (GVCs), despite their increased complexity and need to be more resilient (De Marchi, Di Maria, Golini & Perri, 2020). Whether a firm acts as an industrial supplier or directly serves the end-user market, thereby acting as the 'lead firm', may have important implications for the interaction between innovation- and internationalization-related choices; a consideration largely neglected to date (Buciuni & Pisano, 2021). Motives to innovate and internationally diversify differ across GVC and non-GVC firms, with the former being guided in their ID-I choices by fellow GVC-members and the 'lead firm'. Important power asymmetries might also arise, given that many GVC firms are SMEs serving larger firms (Juergensen, Guimón, & Narula, 2020). A finer-grained understanding of the ID-I relationship across modern contexts, will likely contribute to achieving more *breadth* of knowledge.

Lastly, advancements in ID-I research need to be accompanied not only by studying novel empirical contexts, but also by adopting appropriate theoretical lenses. Notwithstanding the contributions of highly influential IB theories, including TCE/internalization theory in its numerous iterations (Narula et al., 2019), understanding the ID-I relationship requires more dynamic theoretical rationales, which place behavioral assumptions at the forefront. In addition to what we discussed earlier, March's (1991) exploitation-exploration framework and the notion of ambidexterity may also serve as fruitful theoretical basis for examining topical ID-I

strategies. For example, in the context of complex GVCs, such as in the automotive sector, with increased policy intervention regarding the sales of combustion engine cars in several countries, car manufacturers and their partners, are faced to either gear resources towards the innovation of electrical vehicles and their infrastructure, or to enter/expand in international markets with no or only limited restrictions on combustion engines. Firms may benefit from developing strategies to achieve organizational ambidexterity; whereby ID may, for instance, serve as a platform for exploitation and innovation as a platform for exploration.

Finally, we note that, although incorporating specialist innovation journals was beyond the scope of this review, we recognize that research studies published in such outlets (*Technovation, Research Policy*, to name a few) have been highly influential in shaping ID-I research in international business and international management. We therefore hope that scholars will be inspired to extend this review and explore how we can borrow from different disciplines in order to develop more topical and managerially relevant ID-I research.

References

Alcácer, J., Cantwell, J. and Piscitello, L. (2016). Internationalization in the information age: A new era for places, firms, and international business networks? *Journal of International Business Studies*, 47(5), 499-512.

Almeida, P. (1996). Knowledge sourcing by foreign multinationals: Patent citation analysis in the US semiconductor industry. *Strategic Management Journal*, 17(2), 155-165.

Ambos, T.C., Ambos, B. and Schlegelmilch, B.B. (2006). Learning from foreign subsidiaries: An empirical investigation of headquarters' benefits from reverse knowledge transfers. *International Business Review*, 15(3), 294-312.

Anand, J., McDermott, G., Mudambi, R. and Narula, R. (2021). Innovation in and from emerging economies: New insights and lessons for international business research. *Journal of International Business Studies*, 52, 545–559

Autio, E., Sapienza, H.J. and Almeida, J.G. (2000). Effects of age at entry, knowledge intensity, and imitability on international growth. *Academy of Management Journal*, 43(5), 909-924.

Azar, G. and Ciabuschi, F. (2017). Organizational innovation, technological innovation, and export performance: The effects of innovation radicalness and extensiveness. *International Business Review*, 26(2), 324-336.

Bagheri, M., Mitchelmore, S., Bamiatzi, V. and Nikolopoulos, K. (2019). Internationalization orientation in SMEs: The mediating role of technological innovation. *Journal of International Management*, 25(1), 121-139.

Baker, T. and Nelson, R.E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50(3), 329-366.

Bamford, J., Baynham, G. and Ernst, D. (2020). Joint Ventures and Partnerships in a Downturn. *Harvard Business Review*, 98(5), 116-124.

Banalieva, E.R. and Dhanaraj, C. (2019). Internalization theory for the digital economy. *Journal of International Business Studies,* 50(8), 1372-1387.

Barkema, H.G. and Vermeulen, F. (1998). International expansion through start-up or acquisition: A learning perspective. *Academy of Management Journal*, 41(1), 7-26.

Bartlett, C.A. and Ghoshal, S. (1989). *Managing across borders: The transnational solution*. Boston, MA: Harvard Business School Press.

Belderbos, R., Carree, M. and Lokshin, B. (2004). Cooperative R&D and firm performance. *Research Policy,* 33(10), 1477-1492.

Berry, H. and Kaul, A. (2016). Replicating the multinationality-performance relationship: Is there an S-curve? *Strategic Management Journal*, 37(11), 2275-2290.

Bonaglia, F., Goldstein, A. and Mathews, J.A. (2007). Accelerated internationalization by emerging markets' multinationals: The case of the white goods sector. *Journal of World Business*, 42(4), 369-383.

Bresman, H., Birkinshaw, J. and Nobel, R. (1999). Knowledge transfer in international acquisitions. *Journal of International Business Studies*, 30(3), 439-462.

Briner, R. B. and Denyer, D. (2012). *Systematic review and evidence synthesis as a practice and scholarship tool.* in D. Rousseau (ed.). The Oxford Handbook of Evidence-Based Management: Companies, Classrooms, and Research (pp. 112-129). Oxford University Press.

Brouthers, K.D., Geisser, K.D. and Rothlauf, F. (2016). Explaining the internationalization of ibusiness firms. *Journal of International Business Studies*, 47(5), 513-534.

Buciuni, G. and Pisano, G. (2021). Variety of Innovation in Global Value Chains. *Journal of World Business*, 56(2), 101167.

Buckley, P.J. and Casson, M., (2009). The internalisation theory of the multinational enterprise: A review of the progress of a research agenda after 30 years. *Journal of International Business Studies*, 40(9), 1563-1580.

Campa, J. and Guillén, M.F. (1999). The internalization of exports: Firm-and location-specific factors in a middle-income country. *Management Science*, 45(11), 1463-1478.

Cano-Kollmann, M., Cantwell, J., Hannigan, T.J., Mudambi, R. and Song, J. (2016). Knowledge connectivity: An agenda for innovation research in international business. *Journal of International Business Studies*, 47, 255-262.

Cantwell, J. (1989). *Technological innovation and multinational corporations*. B. Blackwell.

Cassiman, B. and Golovko, E. (2011). Innovation and internationalization through exports. *Journal of International Business Studies*, 42(1), 56-75.

Chang, S.J. (1995). International expansion strategy of Japanese firms: Capability building through sequential entry. *Academy of Management Journal*, 38(2), 383-407.

Clegg, L.J., Voss, H. and Chen, L. (2019). Can VUCA Help Us Generate New Theory within International Business?", Tulder, R.V., Verbeke, A. and Jankowska, B. (Ed.) *International Business in a VUCA World: The Changing Role of States and Firms* (*Progress in International Business Research, Vol. 14*), Emerald Publishing Limited, pp. 55-66.

Coviello, N. (2015). Re-thinking research on born globals. *Journal of International Business Studies*, 46(1), 17-26.

Crossan, M.M. and Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of Management Studies*, 47(6),1154-1191.

Cuervo-Cazurra, A., Narula, R. and Un, C.A. (2015). Internationalization motives: Sell more, buy better, upgrade and escape. *Multinational Business Review*, 23(1), 25-35.

Cyert, R. and March, J. (1963). *A behavioral theory of the firm*. Englewood Cliffs, NJ: Prentice-Hall.

Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34(3), 555-590.

Damanpour, F., Sanchez-Henriquez, F. and Chiu, H.H. (2018). Internal and external sources and the adoption of innovations in organizations. *British Journal of Management*, 29(4), 712-730.

Delios, A. and Beamish, P.W. (1999). Geographic scope, product diversification, and the corporate performance of Japanese firms. *Strategic Management Journal*, 20(8), 711-727.

Deng, Z., Guo, H., Zhang, W. and Wang, C. (2014). Innovation and survival of exporters: A contingency perspective. *International Business Review*, 23(2), 396-406.

De Marchi, V., Di Maria, E., Golini, R. and Perri, A. (2020). Nurturing international business research through global value chains literature: A review and discussion of future research opportunities. *International Business Review*, 101708.

Dittfeld, M. (2017). Multinationality and performance: A context-specific analysis for German firms. *Management International Review*, 57(1), 1-35.

Driffield, N., Love, J. H., and Yang, Y. 2016. Reverse international knowledge transfer in the MNE: (Where) does affiliate performance boost parent performance? *Research Policy*, 45(2), 491–506.

Dunning, J. H. (1977). Trade, location of economic activity and the MNE: A search for an eclectic approach. In P. O. Hesselborn, B. Ohlin, & P. M. Wijkman (Eds.), *The international allocation of economic activity*: 395-418. London: Palgrave Macmillan.

Dunning, J.H. and Lundan, S.M. (2009). The internationalization of corporate R&D: A review of the evidence and some policy implications for home countries. *Review of Policy Research*, 26(1-2), 13-33.

Dziallas, M. and Blind, K. (2019). Innovation indicators throughout the innovation process: An extensive literature analysis. *Technovation*, 80, 3-29.
Eckert, S., Dittfeld, M., Muche, T. and Rässler, S. (2010). Does multinationality lead to value enhancement? An empirical examination of publicly listed corporations from Germany. *International Business Review*, 19(6), 562-574.
Fernández-Mesa, A. and Alegre, J. (2015). Entrepreneurial orientation and export intensity: Examining the interplay of organizational learning and innovation. *International Business Review*, 24(1), 148-156.
Ferreras-Méndez, J.L., Fernández-Mesa, A. and Alegre, J. (2019). Export Performance in SMEs: The Importance of External Knowledge Search Strategies and Absorptive Capacity. *Management International Review*, 59(3), 413-437.
Filatotchev, I. and Piesse, J. (2009). R&D, internationalization and growth of newly listed firms: European evidence. *Journal of International Business Studies*, 40(8), 260-1276.
Filatotchev, I., Liu, X., Buck, T. and Wright, M. (2009). The export orientation and export performance of high-technology SMEs in emerging markets: The effects of knowledge transfer by returnee entrepreneurs. *Journal of International Business Studies*, 40(6), 1005-1021.
Fleury, A., Fleury, M.T.L. and Borini, F.M. (2013). The Brazilian multinationals' approaches to innovation. *Journal of International Management*, 19(3), 260-275.
Foss, N.J. and Saebi, T. (2018). Business models and business model innovation: Between wicked and paradigmatic problems. *Long Range Planning*, 51(1), 9-21.
Freixanet, J. and Rialp, J. (2021). Disentangling the relationship between internationalization, incremental and radical innovation, and firm performance. *Global Strategy Journal*, 1-25.
Gaba, V. and Greve, H.R. (2019). Safe or profitable? The pursuit of conflicting goals. *Organization Science*, 30(4), 647-667.
Gaur, A. and Kumar, M. (2017). A systematic approach to conducting review studies. An assessment of content analysis in 25 years of IB research. *Journal of World Business*, 53(2), 280-289.
Gavetti, G., Greve, H.R., Levinthal, D.A. and Ocasio, W. (2012). The behavioral theory of the firm: Assessment and prospects. *Academy of Management Annals*, 6(1), 1-40.
Geringer, J.M., Beamish, P.W. and daCosta, R.C. (1989). Diversification strategy and internationalization: Implications for MNE performance. *Strategic Management Journal*, 10(2), 9-119.
Geringer, J.M., Tallman, S. and Olsen, D.M. (2000). Product and international diversification among Japanese multinational firms. *Strategic Management Journal*, 21(1), 51-80.
Gkypali, A., Love, J.H. and Roper, S. (2021). Export status and SME productivity: Learning-to-export versus learning-by-exporting. *Journal of Business Research*, 128, 486-498.
Golovko, E. and Valentini, G. (2011). exploring the complementarity between innovation and export for SMEs' growth. *Journal of International Business Studies*, 42, 362-380.
Gong, Y., Zhang, Y. and Xia, J. (2017). Do firms learn more from small or big successes and failures? A test of the outcome-based feedback learning perspective. *Journal of Management*, 45(3), 1034-1056.
Greve, H. R. (2003). *Organizational learning from performance feedback: A behavioral perspective on innovation and change*. Cambridge, UK: Cambridge University Press.
Greve, H.R. (2008). A behavioral theory of firm growth: Sequential attention to size and performance goals. *Academy of Management Journal*, 51(3), 476-494.
Greve, H. R. & Teh, D. (2018). Goal selection internally and externally: A behavioral theory of institutionalization. *International Journal of Management Reviews*, *20*(1): 19-38.
Gupta, A.K. and Govindarajan, V. (2000). Knowledge flows within multinational corporations. *Strategic Management Journal*, 21(4), 473-496.

Hennart, J.F. (2019). Digitalized service multinationals and international business theory. *Journal of International Business Studies*, 50(8), 1388-1400.
Hermans, M. and Reyes, A.B. (2020). A value creation perspective on international business in Latin America: directions for differentiation between emerging market multinationals. *Multinational Business Review*, 28(2), 157-175.
Hitt, M.A., Hoskisson, R.E. and Ireland, R.D. (1994). A mid-range theory of the interactive effects of international and product diversification on innovation and performance. *Journal of Management*, 20(2), 297-326.
Hitt, M.A., Hoskisson, R.E. and Kim, H. (1997). International diversification: Effects on innovation and firm performance in product-diversified firms. *Academy of Management Journal*, 40(4), 767-798.
Hitt, M.A., Tihanyi, L., Miller, T. and Connelly, B. (2006). International diversification: Antecedents, outcomes, and moderators. *Journal of Management*, 32(6), 831-867.
Hitt, M.A., Ireland, R.D. and Hoskisson, R.E. (2007). *Strategic management: Competitiveness and globalization* (7th ed.) Mason, OH: South-Western.
Ipsmiller, I., Brouthers, K.D. and Dikova, D. (2019). 25 years of real option empirical research in management. *European Management Review*, 16, 55-68.
Johanson, J. and Vahlne, J.E. (1977). The internationalization process of the firm—a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8(1), 23-32.
Johanson, J. and 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.
Jones, M.V. and Coviello, N.E. (2005). Internationalisation: conceptualising an entrepreneurial process of behaviour in time. *Journal of International Business Studies*, 36(3), 284-303.
Jormanainen, I. and Koveshnikov, A. (2012). International activities of emerging market firms. *Management International Review*, 52(5), 691-725.
Juergensen, J., Guimón, J. and Narula, R. (2020). European SMEs amidst the COVID-19 crisis: assessing impact and policy responses. *Journal of Industrial and Business Economics*, 47(3), 499-510.
Kafouros, M.I., Buckley, P.J., Sharp, J.A. and Wang, C. (2008). The role of internationalization in explaining innovation performance. *Technovation*, 28(1-2), 63-74.
Kafouros, M., Wang, C., Mavroudi, E., Hong, J. and Katsikeas, C.S. (2018). Geographic dispersion and co-location in global R&D portfolios: Consequences for firm performance. *Research Policy*, 47(7), 1243-1255.
Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263-292.
Kano, L. and Verbeke, A. (2015). The three faces of bounded reliability: Alfred Chandler and the micro-foundations of management theory. *California Management Review*, 58(1), 97-122.
Kano, L., Tsang, E.W. and Yeung, H.W.C. (2020). Global value chains: A review of the multi-disciplinary literature. *Journal of International Business Studies*, 51(4), 577-622.
Kim, W.C., Hwang, P. and Burgers, W.P. (1989). Global diversification strategy and corporate profit performance. *Strategic Management Journal*, 10(1), 45-57.
Kimura, Y. (1989). Firm-specific strategic advantages and foreign direct investment behavior of firms: The case of Japanese semiconductor firms. *Journal of International Business Studies*, 20(2), 296-314.
Kirca, A.H., Hult, G.T.M., Roth, K., Cavusgil, S.T., Perryy, M.Z., Akdeniz, M.B., Deligonul, S.Z., Mena, J.A., Pollitte, W.A., Hoppner, J.J. and Miller, J.C. (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., Fernandez, W.D. and Kundu, S.K. (2016). An empirical analysis and extension of internalization theory in emerging markets: The role of firm-specific assets and asset dispersion in the multinationality-performance relationship. *Journal of World Business*, 51(4), 628-640.
Knight, G.A. and Cavusgil, S.T. (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies*, 35(2), 124-141.
Kogut, B. and Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*, 3(3), 383-397.
Kotabe, M., Srinivasan, S.S. and Aulakh, P.S. (2002). Multinationality and firm performance: The moderating role of R&D and marketing capabilities. *Journal of International Business Studies*, 33(1), 79-97.
Kriz, A. and Welch, C. (2018). Innovation and internationalisation processes of firms with new-to-the-world technologies. *Journal of International Business Studies*, 49(4), 496-522.
Kumar, M.S. (2009). The relationship between product and international diversification: The effects of short-run constraints and endogeneity. *Strategic Management Journal*, 30(1), 99-116.
Kyläheiko, K., Jantunen, A., Puumalainen, K., Saarenketo, S., and Tuppura, A. (2011). Innovation and internationalization as growth strategies: The role of technological capabilities and appropriability. *International Business Review*, 20(5), 508-520.
Levitt, B. and March, J.G. (1988). Organizational learning. *Annual Review of Sociology*, 14(1), 319-338.
Li, L., Li, D., Goerzen, A. and Shi, W.S. (2018). What and how do SMEs gain by going international? A longitudinal investigation of financial and intellectual resource growth. *Journal of World Business*, 53(6), 817-834.
Liu, X., Lu, J., Filatotchev, I., Buck, T. and Wright, M. (2010). Returnee entrepreneurs, knowledge spillovers and innovation in high-tech firms in emerging economies. *Journal of International Business Studies,* 41(7), 1183-1197.
Love, J.H. and Mansury, M.A. (2009). Exporting and productivity in business services: Evidence from the United States. *International Business Review,* 18(6), 630-642.
Love, J.H. and Ganotakis, P. (2013). Learning by exporting: Lessons from high-technology SMEs. *International Business Review*, 22(1), 1-17.
Love, J.H. and Roper, S. (2015). SME innovation, exporting and growth: A review of existing evidence. *International Small Business Journal: Researching Entrepreneurship*, 33(1), 28-48.
Love, J.H., Roper, S. and Zhou, Y., (2016). Experience, age and exporting performance in UK SMEs. *International Business Review*, 25(4), 806-819.
Lu, J.W. and Beamish, P.W. (2004). International diversification and firm performance: The S-curve hypothesis. *Academy of Management Journal*, 47(4), 598-609.
Luo, Y. and Tung, R.L. (2007). International expansion of emerging market enterprises: A springboard perspective. *Journal of International Business Studies*, 38, 481-498.
Lu, J.W. and Beamish, P.W. (2001). The internationalization and performance of SMEs. *Strategic Management Journal*, 22(6-7), 565-586.
March, J.G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71-87.
March, J. G. and Sutton, R. I. (1997). Crossroads—organizational performance as a dependent variable. *Organization Science*, 8(6), 698-706.
Marshall, V.B., Brouthers, L.E. and Keig, D.L. (2020). RIMS: A new approach to measuring firm internationalization. *Journal of International Business Studies*, 1-9.

Martin, S.L., Javalgi, R.G. and Cavusgil, E. (2017). Marketing capabilities, positional advantage, and performance of born global firms: Contingent effect of ambidextrous innovation. *International Business Review*, 26(3), 527-543.
Mudambi, R., and Navarra, P. (2004). Is knowledge power? Knowledge flows, subsidiary power and rent-seeking within MNCs. *Journal of International Business Studies*, 35(5), 385-406.
Mudambi, R., Piscitello, L. and Rabbiosi, L. (2013). Reverse knowledge transfer in MNEs: subsidiary innovativeness and entry modes. *Long Range Planning*, 47(1-2), 49-63.
Nambisan, S., Zahra, S.A. and Luo, Y. (2019). Global platforms and ecosystems: Implications for international business theories. *Journal of International Business Studies*, 50(9),1464-1486.
Narula, R. (2004). R&D collaboration by SMEs: new opportunities and limitations in the face of globalisation. *Technovation*, 24(2),153-161.
Narula, R. (2014). Exploring the paradox of competence-creating subsidiaries: Balancing bandwidth and dispersion in MNEs. *Long Range Planning*, 47(1-2), 4-15.
Narula, R., Asmussen, C.G., Chi, T. and Kundu, S.K. (2019). Applying and advancing internalization theory: The multinational enterprise in the twenty-first century. *Journal of International Business Studies* 50, 1231-1252.
Nelson, R. R. and S. G. Winter (1982). *An Evolutionary Theory of Economic Change*. Belknap Press, Cambridge, MA.
Neuendorf, K. A. (2002). *The content analysis: Guidebook.* Thousand Oaks: Sage Publications.
Nohria, N. and Gulati, R. (1996). Is slack good or bad for innovation? *Academy of Management Journal*, 39(5), 1245-1264.
Oesterle, M.J. (1997). Time-span until internationalization: Foreign market entry as a built-in-mechanism of innovations. *Management International Review*, 37, 125-149.
Papanastassiou, M., Pearce, R. and Zanfei, A. (2020). Changing perspectives on the internationalization of R&D and innovation by multinational enterprises: A review of the literature. *Journal of International Business Studies*, 51, 623-664.
Paul, J., Parthasarathy, S. and Gupta, P. (2017). Exporting challenges of SMEs: A review and future research agenda. *Journal of World Business*, 52(3), 327-342.
Paul, J. and Rosado-Serrano, A. (2019). Gradual internationalization vs born-global/international new venture models: A review and research agenda. *International Marketing Review*, 36(6), 830-858
Pla-Barber, J. and Alegre, J. (2007). Analysing the link between export intensity, innovation and firm size in a science-based industry. *International Business Review*, 16(3), 275-293.
Prange, C. and Verdier, S. (2011). Dynamic capabilities, internationalization processes and performance. *Journal of World Business*, 46(1), 126-133.
Puig, F., Madhok, A. and Shen, Z. (2020). Investigating firm heterogeneity in country-of-origin cluster location choice decisions. Multinational Business Review. 28(2), 221-244.
Reuber, A.R., Knight, G.A., Liesch, P.W. and Zhou, L. (2018). International entrepreneurship: The pursuit of entrepreneurial opportunities across national borders. *Journal of International Business* Studies, 49, 395-406.
Richard, P. J., Devinney, T. M., Yip, G. S. and Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of Management*, 35(3), 718-804.
Rodríguez, J.L. and Rodríguez, R.M.G. (2005). Technology and export behaviour: A resource-based view approach. *International Business Review*, 14(5), 539-557.
Rugman, A. M. (1981). *Inside the multinationals: The economics of international markets.* London: Croom Helm.

Rumelt, R. P. (1974). *Strategy, Structure and Economic Performance*, Harvard University Press, Boston, MA.
Sanna-Randaccio, F. and Veugelers, R. (2007). Multinational knowledge spillovers with decentralised R&D: a game-theoretic approach. *Journal of International Business Studies*, 38(1), 47-63.
Schaefer, K.J. (2020). Catching up by hiring: The case of Huawei. *Journal of International Business Studies*, 51(9), 1500-1515.
Singh, D.A. and Gaur, A.S. (2013). Governance structure, innovation and internationalization: Evidence from India. *Journal of International Management*, 19(3), 300-309.
Srivastava, S., Singh, S. and Dhir, S. (2020). Culture and International business research: a review and research agenda. *International Business Review*, 29(4), 101709.
Subramaniam, M. and Venkatraman, N. (2001). Determinants of transnational new product development capability: Testing the influence of transferring and deploying tacit overseas knowledge. *Strategic Management Journal*, 22(4), 359-378.
Surdu, I. and Mellahi, K. (2016). Theoretical foundations of equity based foreign market entry decisions: A review of the literature and recommendations for future research. *International Business Review*, 25(5), 1169-1184.
Surdu, I., Mellahi, K. and Glaister, K.W. (2019). Once bitten, not necessarily shy? Determinants of foreign market re-entry commitment strategies. *Journal of International Business Studies*, 50(3), 393-422.
Surdu, I., Greve, H.R. and Benito, G.R. (2020). Back to basics: Behavioral theory and internationalization. *Journal of International Business Studies*, 1-22.
Tallman, S. and Li, J. (1996). Effects of international diversity and product diversity on the performance of multinational firms. *Academy of Management Journal*, 39(1), 179-196.
Tan, Q. and Sousa, C.M. (2019). Why poor performance is not enough for a foreign exit: The importance of innovation capability and international experience. *Management International Review*, 59(3), 465-498.
Teece, D.J., Pisano, G. and Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
Teece, D.J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350.
Tihanyi, L., Johnson, R.A., Hoskisson, R.E. and Hitt, M.A. (2003). Institutional ownership differences and international diversification: The effects of boards of directors and technological opportunity. *Academy of Management Journal*, 46(2), 195-211.
Tsao, S.M. and Lien, W.H. (2013). Family management and internationalization: The impact on firm performance and innovation. *Management International Review*, 53(2), 189-213.
van Tulder, R., Verbeke, A., & Jankowska, B. (2019). *International business in a VUCA world: The changing role of states and firms*. *Progress in International Business Research* (Vol.14). Bingley: Emerald.
Vanhaverbeke, W., Van de Vrande, V. and Chesbrough, H. (2008). Understanding the advantages of open innovation practices in corporate venturing in terms of real options. *Creativity and Innovation Management*, 17(4), 251-258.
Vahlne, J.E. and Johanson, J. (2017). From internationalization to evolution: The Uppsala model at 40 years. *Journal of International Business Studies*, 48(9), 1087-1102.
Vargo, S.L., Akaka, M.A. and Wieland, H. (2020). Rethinking the process of diffusion in innovation: A service-ecosystems and institutional perspective. *Journal of Business Research*, 116, 526-534.
Vermeulen, F. and Barkema, H. (2002). Pace, rhythm, and scope: Process dependence in building a profitable multinational corporation. *Strategic Management Journal*, 23(7), 637-653.

Webster, E. (2004). Firms' decisions to innovate and innovation routines. *Economics of Innovation and New Technology*, 13(8), 733-745.

Welch, C., Piekkari, R., Plakoyiannaki, E. and Paavilainen-Mäntymäki, E. (2011). Theorising from case studies: Towards a pluralist future for international business research. *Journal of International Business Studies*, 42(5), 740-762.

Yi, J., Wang, C. and Kafouros, M. (2013). The effects of innovative capabilities on exporting: Do institutional forces matter? *International Business Review*, 22(2), 392-406.

Zahra, S.A., Ireland, R.D. and Hitt, M.A. (2000). International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal*, 43(5), 925-950.

Zander, I., McDougall-Covin, P. and Rose, E.L. (2015). Born globals and international business: Evolution of a field of research. *Journal of International Business Studies*, 46(1), 27-35.

Figure 1: Step-by-step overview of data collection and sampling process

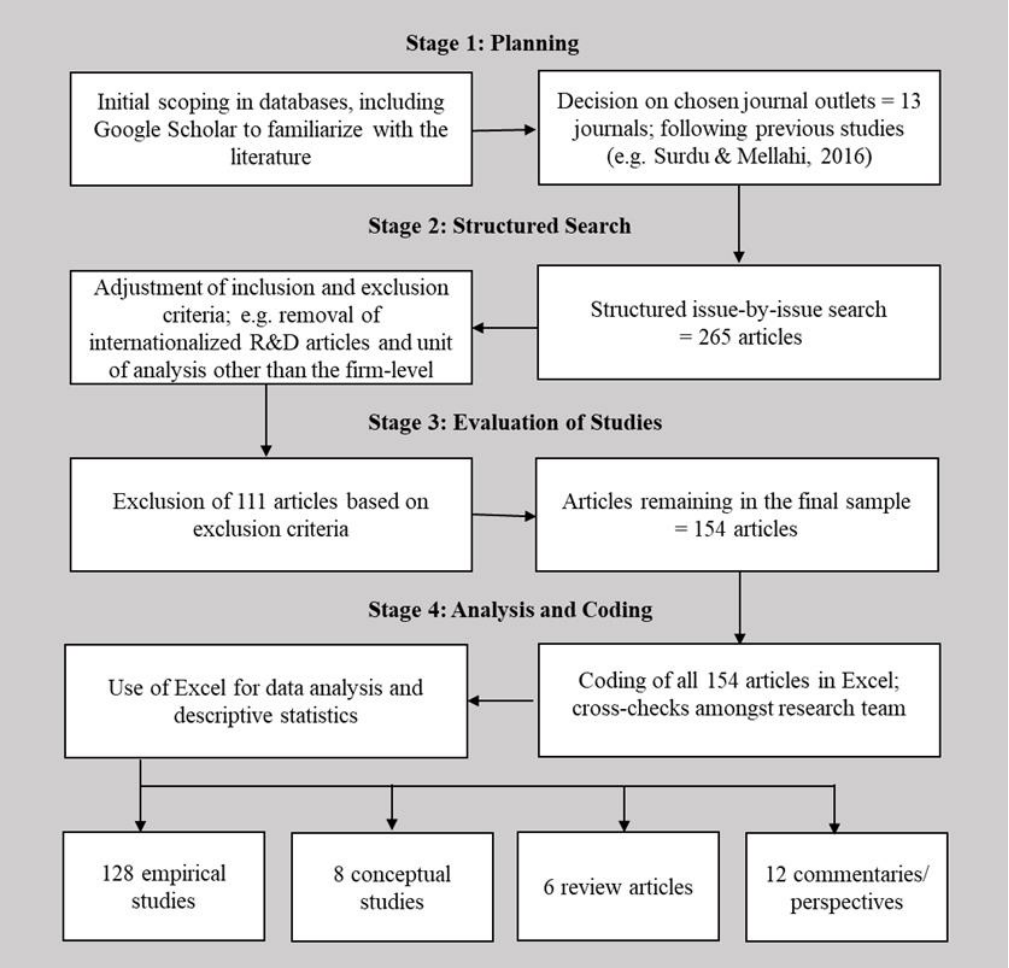

Figure 2: The evolution of the ID-I literature over time

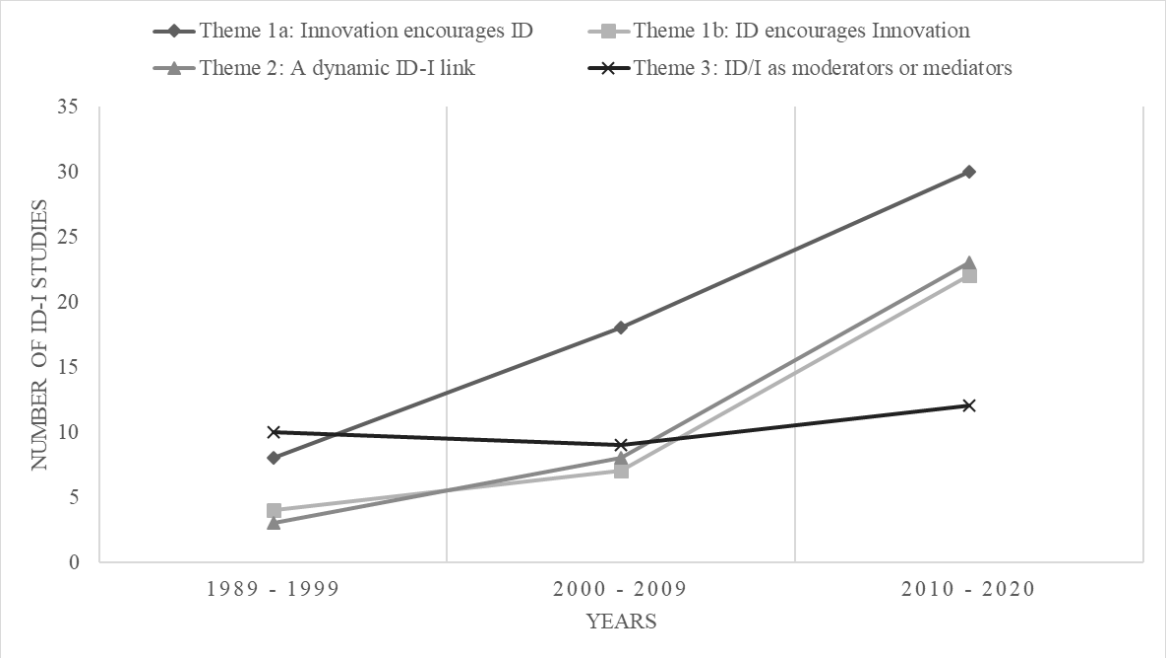

Figure 3: A unified framework for understanding extant and future ID-I relationship research

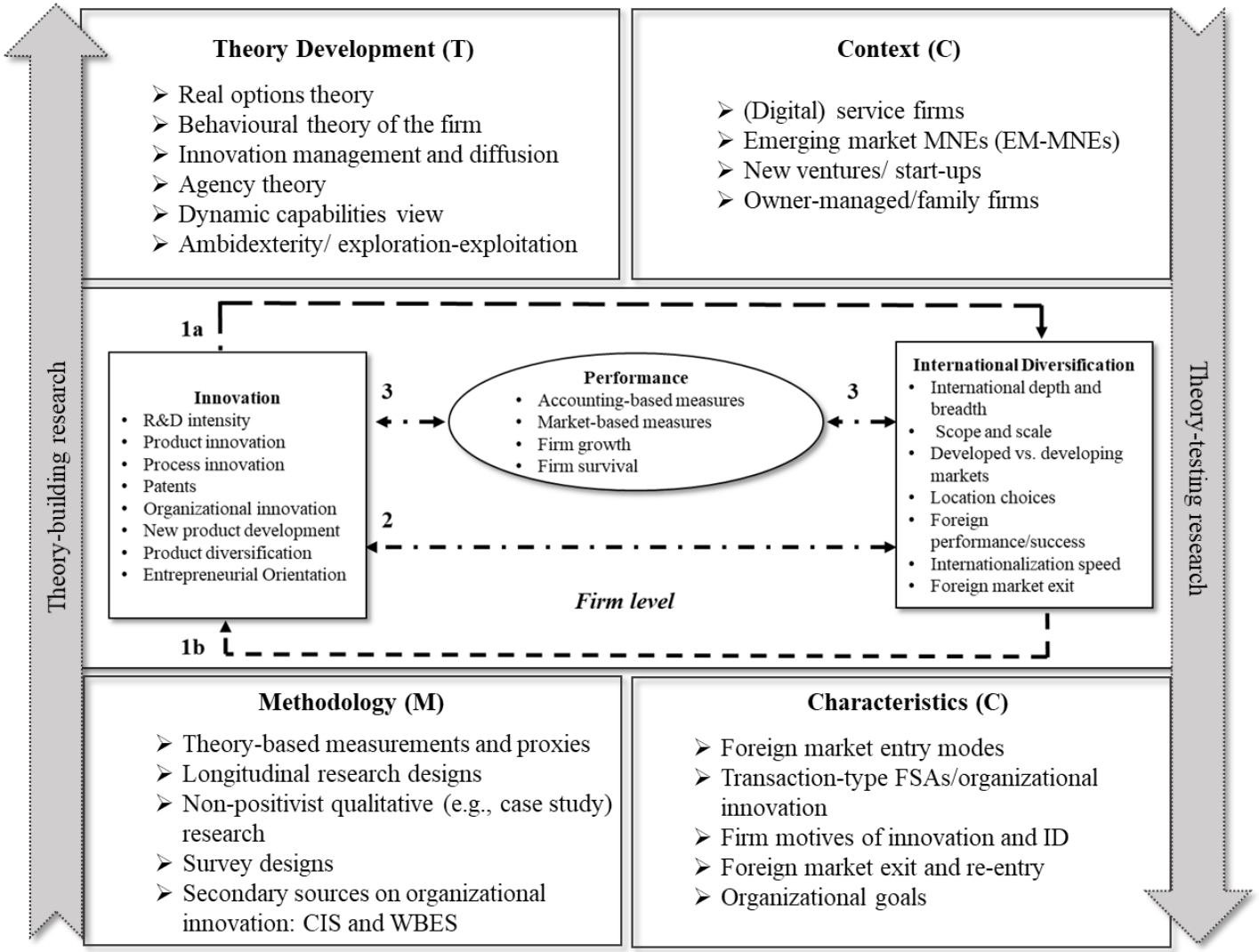

Table 1: Types of articles across themes

Type of article	**Number of studies per theme**			
	Theme 1		Theme 2	Theme 3
	Theme 1a *Innovation encourages ID*	Theme 1b *ID encourages innovation*	*A dynamic ID-I link*	*Moderating or mediating factors*
Empirical	49	27	20	32
Conceptual	2	2	4	0
Review	3	1	1	1
Commentary/ Perspective	2	3	7	0
Total	**56**	**33**	**32**	**33**

Table 2: Evolution of studies over time per journal outlet

Period	General management journals							ID-I/ total studies	(%)	IB journals					ID-I/ total studies	(%)	Overall no. of ID-I studies/year	Overall no. of studies/ year
	Number of ID-I studies									Number of ID-I studies								
	SMJ 1980-	AMJ 1958-	MS 1955-	JOM 1975-	AMR 1976-	OS 1990-	OSS 1980-			JIBS 1970-	IBR 1993-	MIR 1960-	JIM 1998-	JWB 1997-				
1989-1999	9	4	2	1	0	0	0	16/3,720	0.4	5	0	4	0	0	9/1,350	0.6	25	5,070
2000-2009	7	4	0	1	0	0	0	12/4,920	0.2	16	4	5	1	4	30/1,800	1.6	42	6,720
2010-2020	5	1	0	0	0	1	0	7/7,520	0.1	21	28	8	8	15	80/3,000	2.7	87	10,520
Total/ journal	21	9	2	2	0	1	0	35/16,160	0.2	42	32	17	9	19	119/6,150	1.9	154	22,310

Table 3: Citation structure of the ID-I literature

Total citations	Number of studies	% of studies	Total citations per year	Number of studies	% of studies
≥ 2,000	7	4.6%	≥ 100	7	4.6%
≥ 1,000	13	8.6%	≥ 50	18	11.8%
≥ 500	23	15.1%	≥ 40	27	17.8%
≥ 250	41	27.0%	≥ 30	41	26.8%
≥ 100	81	52.9%	≥ 20	63	41.2%
≥ 50	107	69.9%	≥ 10	105	68.6%
≥ 10	146	94.8%	≥ 5	133	86.4%
< 10	8	5.2%	< 5	21	13.6%
Total	154 studies	100%	Total	154 studies	100%

Table 4: Most influential ID-I studies

	Author	Publication year	Journal	Total citations	Total citations per year	Theme
1	Hitt, Hoskisson & Kim	1997	AMJ	3,437	156.23	1b
2	Zahra, Ireland & Hitt	2000	AMJ	3,278	172.53	1b
3	Knight & Cavusgil	2004	JIBS	3,222	214.80	1a
4	Autio, Sapienza & Almeida	2000	AMJ	3,211	169.00	1a
5	Luo & Tung	2007	JIBS	2,573	214.42	1b
6	Lu & Beamish	2001	SMJ	2,536	140.89	2
7	Barkema & Vermeulen	1998	AMJ	2,101	100.05	1b
8	Tallman & Li	1996	AMJ	1,425	61.96	3
9	Lu & Beamish	2004	AMJ	1,393	92.87	3
10	Almeida, P.	1996	SMJ	1,305	56.74	1b
11	Jones & Coviello	2005	JIBS	1,206	86.14	2
12	Geringer, Beamish & daCosta	1989	SMJ	1,164	38.80	2
13	Chang, S.J.	1995	AMJ	1,093	45.54	1a
14	Kotabe, Srinivasan & Aulakh	2002	JIBS	831	48.88	3
15	Geringer, Tallman & Olsen	2000	SMJ	799	42.05	2
16	Delios & Beamish	1999	SMJ	777	38.85	1a
17	Kim, Hwang & Burgers	1993	SMJ	747	28.73	2
18	Subramaniam & Venkatraman	2001	SMJ	736	40.89	1b
19	Vermeulen & Barkema	2002	SMJ	706	41.53	3
20	Hitt, Hoskisson & Ireland	1994	JOM	682	27.28	2
21	Hitt, Tihanyi, Miller & Connelly	2006	JOM	625	48.08	1b
22	Kim, Hwang & Burgers	1989	SMJ	596	19.87	3
23	Buckley & Casson	2009	JIBS	567	56.70	2
24	Tihanyi, Johnson, Hoskisson & Hitt	2003	AMJ	492	30.75	3
25	Bonaglia, Goldstein & Mathews	2007	JWB	471	39.25	1a
26	Cassiman & Golovko	2011	JIBS	467	58.38	3
27	Fliatotchev, Liu, Buck & Wright	2009	JIBS	458	45.80	1a
28	Liesch & Knight	1999	JIBS	447	22.35	2
29	Gassmann & Keupp	2007	JWB	424	35.33	1a
30	Pla-Barber & Alegre	2007	IBR	417	34.75	1a

Table 5: Theme 1a sample table - From innovation to international diversification – Highly cited studies (citations/year

Reference	Journal	Method and Sample	Key Findings
Chang (1995)	AMJ	Quantitative, secondary data 95 Japanese electronic manufacturing firms	Studying the sequential entry process of Japanese manufacturing firms, the author finds that the higher the firm's R&D intensity, the more likely it is to engage in foreign market entry.
Delios & Beamish (1999)	SMJ	Quantitative, secondary data 399 firms from Japan	The authors find that there is indeed intrinsic value in geographic scope for Japanese firms, and R&D expenses were found to be positively and significantly associated with geographic scope.
Autio, Sapienza & Almeida (2000)	AMJ	Quantitative, survey 59 privately owned electronics firms in Finland	Knowledge intensity was found to help firms learn from their international market entry and to subsequently increase international sales, thereby supporting a knowledge- and learning-based view on international expansion.
Knight & Cavusgil, (2004)	JIBS	Mixed, interviews and surveys 33 interviews and 203 responses from manufacturing firms across the United States	The findings presented here suggests that the highly innovative nature of BGs encourages them to develop certain types of knowledge which in turn drives the development of firm-specific capabilities that lead to early internationalisation.
Bonaglia, Goldstein & Mathews (2007)	JWB	Qualitative, case study 3 emerging market players from Turkey, China, Mexico	Investigating how three EM-MNEs pursued their global growth through accelerated internationalization combined with strategic innovation, the authors offer insights into the unique success recipes of the three studied firms.
Pla-Barber & Alegre (2007)	IBR	Quantitative 121 firms in the French biotechnology	The authors find that firm size is not a key determinant for innovation or export intensity in French biotechnology firms, but there is, indeed, a positive and significant relationship between innovation and exporting.
Filatotchev, Liu, Buck & Wright, (2009)	JIBS	Quantitative, hand-collected 711 SMEs from Zhongguancun Science Park in China	A key insight from this study is that export orientation and performance in Chinese SMEs do not only depend on the development of capabilities through R&D, but also on the entrepreneurial characteristics of the founders.
Coviello (2015)	JIBS	Conceptual N/A	As a commentary on the JIBS decade award winning article by Knight and Cavusgil (2004), the author highlights its contributions, whilst also resolving the question of when it is, actually, appropriate to use the term "born global".
Paul, Parthasarathy & Gupta (2017)	JWB	Review 211 articles	Reviewing the literature on the exporting challenges often faced by SMEs, the authors integrate several studies which found that innovation resources and capabilities are, indeed, important for export entry and intensity.
Azar & Ciabuschi, (2017)	IBR	Quantitative 573 Swedish companies from low-tech industries	Examining the link between different innovation types and firm export performance, the authors find that, specifically, organizational innovation seems to have a direct and indirect effect on a firm's export performance.

Table 6: Theme 1b sample table - From international diversification to innovation – Highly cited studies (citations/year)

Reference	Journal	Method and Sample	Key Findings
Almeida (1996)	SMJ	Quantitative MNEs in the U.S. semiconductor industry	The author finds that foreign firms - e.g., from Europe and Korea - use local (U.S.) knowledge significantly more, compared to similar domestic firms, overall suggesting that foreign firms, indeed, source knowledge internationally.
Hitt, Hoskisson & Kim (1997)	AMJ	Quantitative 295 U.S. manufacturing firms	The paper offers evidence for an inverted U-shaped relationship between international diversification and performance. The findings also show that international diversification has a positive and significant effect on innovation.
Barkema & Vermeulen (1998)	AMJ	Quantitative 25 large Dutch MNCs	The analysis reveals that multinational diversity encourages foreign expansion through start-ups rather than acquisition, suggesting the learning potential that derives from foreign activities.
Zahra, Ireland & Hitt (2000)	AMJ	Quantitative, secondary data 103 new ventures from high-technology industries	There was strong support for the notion that international diversity positively impacts the breadth of technological knowledge and partial support for the notion that it positively affects the depth of technological knowledge.
Subramaniam & Venkatraman (2001)	SMJ	Quantitative 57 firms, mainly from US, some from Europe and Korea	The findings reveal that firms can transfer and deploy overseas tacit knowledge for the purpose of transnational new product development, e.g., by hiring members with overseas experience and ensuring frequent communication.
Hitt, Tihanyi, Miller & Connelly (2006)	JOM	Review N/A	The authors offer a framework in which innovation is seen as a process and organisational outcome that is directly affected by the characteristics of international diversification, including its scale and scope.
Luo & Tung (2007)	JIBS	Conceptual N/A	The authors present a springboard perspective on the internationalization of emerging market MNEs, suggesting that these firms use their foreign expansion as a springboard to acquire strategic resources and capabilities.
Zander, McDougall-Covin & Rose (2015)	JIBS	Conceptual N/A	The authors make the case for how, in some cases, internationalisation may be less about the exploitation of FSAs/ ownership advantages, and more about seeking and developing new ones by, e.g., accessing local networks.
Cano-Kollmann, Cantwell, Hannigan, Mudambi, Song (2015)	JIBS	Conceptual N/A	Integrating insights from IB and economic geography, the authors recall that firms and locations co-evolve together as knowledge is transferred and propose a research agenda on cross-border - yet connected - innovation processes.
Vahlne & Johanson (2017)	JIBS	Conceptual N/A	Presenting their latest effort on updating the Uppsala model, the authors focus on knowledge development sub-processes, pinpointing to some similarities between the innovation process and the internationalisation process.

Table 7: Theme 2 sample table - A dynamic ID-I relationship – Highly cited studies (citations/year)

Reference	Journal	Method and Sample	Key Findings
Geringer, Beamish & DaCosta (1989)	SMJ	Quantitative 100 largest MNEs from the U.S. and Europe	MNEs which pursue related product diversification outperform MNEs that do not over a period of time. Additionally, there seems to be a performance threshold, after which the costs of managing ID seem to outweigh the benefits.
Hitt, Hoskisson & Ireland (1994)	JOM	Conceptual N/A	This theoretical paper links corporate strategy, international diversification and innovation, proposing that firms may geographically overdiversify which may, in turn, hamper its innovation capabilities.
Geringer, Tallman & Olsen (2000)	SMJ	Quantitative 108 largest Japanese manufacturing firms	Focusing on the interplay between product diversification, international diversification and performance, the findings presented here show that ID and PD both may be less valuable in practice than commonly suggested by theory.
Lu & Beamish (2001)	SMJ	Quantitative 164 Japanese SMEs	Controlling for R&D intensity, the authors find that exporting and FDI both have different effects on SME performance, with FDI likely having a non-linear effect, suggesting that SMEs should not *per se* shy away from FDI.
Jones & Coviello (2005)	JIBS	Conceptual N/A	Drawing on classic insights on internationalisation as well as concepts from entrepreneurship, the authors present three detailed time-based models of internationalisation, which can be seen as a process of innovation in itself.
Buckley & Casson (2009)	JIBS	Conceptual N/A	Reviewing 30 years of collaboration between Buckley and Casson, the authors remind us that, from the outset, R&D and innovation were seen as key non-production activities, upon which the firm's dynamics of growth were based.
Golovko & Valentini (2011)	JIBS	Quantitative 1400 Spanish manufacturing firms	In line with their hypothesis regarding complementarity, the authors find that the positive effect of innovation on a firm's growth rate is higher for those firms which also export, and vice versa.
Kyläheiko et al. (2011)	IBR	Quantitative 300 Finnish medium-sized firms	Clustering firms into four groups according to their innovation and ID status, the authors show that internationalized firms which innovate at the same time rank second in terms of their profitability. I and ID may be substitutes.
Alcácer, Cantwell & Piscitello (2016)	JIBS	Conceptual N/A	Recognizing the changes in IB research brought by the techno-economic paradigm of the information age, this editorial sets the scene for some interesting innovation and internationalization research in this specific context.
Reuber, Knight, Liesch & Zhou (2018)	JIBS	Conceptual N/A	Drawing on entrepreneurship and IB research, this editorial introduces several conceptualizations of the pursuit of opportunities, whereby the construction of opportunity at the firm-level is viewed as an innovative activity.

Table 8: Theme 3 sample table - ID and I as moderators/mediators – Highly cited studies (citations/year)

Reference	Journal	Method and Sample	Key Findings
Tallman & Li (1996)	AMJ	Quantitative 192 large US multinational manufacturing firms	Taking on an RBV and TCE theoretical lens, the authors find no support for the argument that international diversity moderates the relationship between product diversification and performance.
Kotabe, Srinivasan & Aulakh (2002)	JIBS	Quantitative 49 U.S. companies in 12 different industries	The findings presented here suggest that the effect of multinationality on financial and operational firm performance is moderated by a firm's R&D capabilities (as well as its marketing capabilities).
Vermeulen & Barkema (2002)	SMJ	Quantitative 22 large Dutch firms over 26 years	Finding a positive relationship between foreign subsidiaries and performance, the authors' findings also indicate a negative moderating effect of ID speed and diversity of geographical and product markets entered by a focal firm.
Tihanyi, Johnson, Hoskisson & Hitt, 2003	AMJ	Quantitative 197 large U.S. firms	The findings suggest that technological opportunity is a moderator on the relationship between institutional ownership and international diversification, and that professional investment and pension funds differ in their risk appetite.
Lu & Beamish (2004)	AMJ	Quantitative 1,489 Japanese firms	Using R&D as a proxy for technological know-how and patents - and more broadly intangible assets - the authors find that innovation is a positive moderator between growth in foreign direct investment and profitability.
Cassiman & Golovko (2011)	JIBS	Quantitative Panel data on Spanish manufacturing firms	The findings show that product innovation is an important moderator on the relationship between productivity and exporting; product innovation increases the firm's productivity which, in turn, encourages it to enter into export markets.
Kirca et al. (2011)	AMJ	Conceptual/Meta-analysis N/A	This meta-analysis finds support for the notion that R&D intensity moderates the relationship between multinationality and performance, suggesting that firms operating abroad can generate higher returns, if they are R&D intensive.
Fernandez-Mesa & Alegre (2015)	IBR	Quantitative 150 Spanish and Italian ceramic tile firms	Innovation performance is found to be the mediator in the relationship between entrepreneurial orientation (EO) and export intensity, suggesting that EO as a managerial attitude may not suffice alone to guarantee exporting success.
Martin, Javalgi, Cavusgil (2017)	IBR	Quantitative Born global firms from Mexico	Based on the theory of competitive advantage, the authors find that ambidextrous innovation positively moderates the relationship between marketing capabilities and positional advantage for BG firms.
Bagheri et al. (2019)	JIM	Quantitative 116 SMEs in the United Kingdom	Rooted in international entrepreneurship (IE) research, this paper finds technological innovation to be a key mediator in the relationship between a firm's international orientation (IO) and its performance.