

Dynamic Capabilities and MNE Global Strategy: A Systematic Literature Review-Based Novel Conceptual Framework

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ABSTRACT Global strategy cannot be fully understood without consideration of dynamic capabilities (DCs). This is because the three key constituents of DCs – the sensing and seizing of opportunities and the reconfiguration of the resource base – are essential preconditions for strategy development, within nations and cross-border. We investigate the aspects of DCs that are most suitable for global strategy and those that need to be revisited and developed. We discuss theory and evidence on DCs and global strategy, present a systematic literature review, compare theory and evidence, and identify gaps between the two as well as opportunities to align them more closely and to develop both. To help guide future research, we develop a novel conceptual framework and provide suggestions for more theory-congruent empirical research.

Keywords: dynamic capabilities, multinational enterprise, global strategy, empirical evidence, novel conceptual framework

INTRODUCTION

As described in Chandler's (1962) classic book, business strategy details a company's objectives and how and by when the company intends to achieve them. The how and by when regards where the company wants to be in terms of its activities and locations, its value proposition, its business model, the resources and capabilities it needs, its approach towards competition and cooperation, and any contingency plans it puts in place. Global strategy is business strategy applied at the international level. Dynamic capabilities (DCs)

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are organizational traits that help in sensing and seizing opportunities and reconfiguring the organizational resource base to maintain relevance and foster agility and adaptability (Pitelis, 2022; Teece, 2007, 2014). Global strategy without DCs is Hamlet without the prince of Denmark. This is because the answer to the question of where a company chooses to operate requires sensing, seizing, and reconfiguring (SSR) the organizational resource base to align with and facilitate the sensing and seizing of opportunities. Global strategy also involves shaping the context within which companies operate to the extent that it is possible. This includes the creation, co-creation, and orchestration of markets, business ecosystems, and institutions. Co-creation and orchestration opportunities presuppose SSR (Pitelis and Teece, 2010, 2019).

The modern theory of the multinational enterprise (MNE) is rooted in the microeconomic theory of the firm and industrial organization (Horst, 1972; Hymer, 1960/1976). It has featured seminal contributions from Buckley and Casson (1976), Dunning (1980), Teece (1977, 1986), Williamson (1981), Hennart (1982) and Kogut and Zander (1993), among others (see Dunning and Lundan, 2008; Dunning and Pitelis, 2008, 2010). The theory has delved into the question of how and why MNEs differ from markets, and the modality they adopt when they enter a foreign market. Since Coase's (1937) classic article, the first question is also known as the *nature* of the firm and hence the MNE. It relates to the reasons why in an economy that is based on voluntary exchanges between transactors in markets, hierarchical organizations such as firms that are based on fiat should exist. The *modality* of cross-border operations is closely linked to the question of the nature of the MNE, because some modalities of entry, such as licensing, are more market-based, while others, such as foreign direct investment (FDI), are more hierarchical (firm)-based. In this context, in the traditional literature of the MNE, the decision to adopt FDI and hence to *internalize* a cross-border activity within organizational boundaries defines the MNE (Dunning and Pitelis, 2008, 2010).

The question of cross-border modalities assumes that the MNE has already decided which cross-border activities to conduct and in which locations/countries it will operate. These are important, usually prior questions, and require the ability of MNEs to sense and seize cross-border opportunities and reconfigure their resource bases to better achieve their purposes. Hence, it requires the MNE to possess DCs. While the internalization of activities and markets is an important part of the wider MNE global strategy, global strategy incorporates several elements that go beyond internalization. These wider considerations of global strategy and the MNE's capabilities to implement it have been largely missing from the early theoretical and empirical literature on MNEs in international business (IB) scholarship. These are the limitations and gaps that we seek to fill in this paper.

More specifically, while global strategy is a key area of application for DCs, the extant conceptual and empirical literature has paid limited attention to it. A way to understand and address the gaps and to orient future research is to undertake a thorough review of the extant empirical and conceptual literature. By comparing the two, we expect to identify and explain gaps and disjuncts and propose ways forward. A keyway to guide future research is to draw on theory and evidence to develop a more comprehensive conceptual framework that permits a better understanding of the concepts and relationships under consideration. The timing of doing this is opportune in that the size of empirical

research is already large and expanding, and the lack of a conceptual framework to guide future research can hinder requisite progress.

In summary, in this paper, we claim that global strategy cannot be understood without consideration of DCs, in that the sensing and seizing of cross-border opportunities and the reconfiguration of the resource base are especially relevant to global strategy. An important aspect of global strategy involves the co-creation and orchestration of the context within which MNEs operate. Co-creation and orchestration require SSR. However, the role of DCs in global strategy has been underexplored in theory, especially in empirical research. We attempt to fill this gap by highlighting aspects of DCs of higher and lower relevance to global strategy and areas that need to be revisited and/or developed. We conducted a systematic literature review to identify gaps, disjuncts and potential areas for improvement. We used its findings to develop a novel conceptual framework to guide future research. We then discuss opportunities for such research. In the next section, we critically assess the literature on DCs, MNEs and global strategy.

THE DYNAMIC CAPABILITIES VIEW (DCV) AND MNE GLOBAL STRATEGY

The dynamic capabilities view (DCV) of the firm and the MNE was developed by David Teece and associates (Petricevic and Teece, 2019; Pitelis and Teece, 2010, 2018; Teece, 2014; Teece et al., 1997). The DCV is built upon the resource-based view (RBV), according to which a key source of sustainable competitive advantage (SCA) is derived from firm-specific resources, capabilities, practices, and processes that are valuable, rare, inimitable, and non-substitutable (VRIN) (Barney, 1991; Penrose, 1959). It is also built upon the evolutionary theory of Nelson and Winter (1982), which emphasized evolutionary processes and the role of organizational capabilities and routines, namely collective, patterned, and recurrent organizational acts (Pitelis and Wagner, 2019). Routines are the intersection between evolutionary economics and the capabilities literature and constitute ordinary organizational capabilities (Winter, 2000). While the evolutionary approach indicates that routine-based capabilities by themselves can explain differences in companies' performance, DCs emphasize the importance of entrepreneurial decision making, which is beyond the scope of ordinary capabilities (Katkalo et al., 2010; Teece et al., 2021). The DCV emphasizes human, notably managerial and entrepreneurial traits, that operate within a cohesive organizational shell, as well as the ways in which these are embedded within organizations (Jones and Pitelis, 2015; Pandza and Thorpe, 2009; Teece, 2014).

Teece, Pisano and Shuen (1997, p. 516) originally expressed DCs in terms of the organizational and managerial capacity to integrate, build, and reconfigure internal and external resources and competencies to address rapidly changing environments. Eisenhardt and Martin (2000) identified several specific processes, such as product development, alliances, and decision making, and added the shaping of the internal and external environment. In Teece et al. (1997), DCs referred to processes, positions, and paths. Later, Teece (2007) simplified and operationalized this into the SSR triad.

Sensing refers to the identification and creation of opportunities and the mitigation of threats. Seizing refers to the requisite steps and actions to take advantage of these opportunities. Reconfiguring refers to adjusting the resource base so that it remains VRIN and relevant. It is aligned with and enables the continuation of sensing and seizing.

In the DCV, ‘ordinary’ capabilities (OCs) refer to the enterprise doing things right, while dynamic capabilities (DCs) refer to doing the right things at the right time. OCs support technical fitness, while DCs support evolutionary fitness. DCs rely on good/best practices as well as ‘signature’ practices, meaning practices that are firm-specific and proprietary. Additionally, DCs require astute managerial orchestration guided by what Rumelt (2011) termed ‘good strategy’. Signature processes and business models include the firm’s history, experience, culture, and creativity (Gratton and Ghoshal, 2005). These are hard to copy and can confer lasting advantages. Besides the tacit nature of their knowledge base, and in part because of it, DCs are characterized by ‘uncertain imitability’ (Lippman and Rumelt, 1982). Creating signature problem-solving processes and business models entails learning, problem recognition and solving through continuous experimentation (Rosenberg, 1992). Table I shows the key building blocks of the DCV.

In summary, DCs reside in and are the outcome of the skills of the top management team (TMT), as well as how and the extent to which these are embedded within the organization (Pitelis and Teece, 2018; Pitelis and Wagner, 2019). They help explain how an enterprise can align its business processes and models with the external environment and, to the extent possible, help shape the environment to its advantage (Pitelis and Teece, 2010).

Teece (2007) referred to distinct and proprietary skills, processes, procedures, organizational structures, decision rules and routines that undergird enterprise-level SSR, as key microfoundations of DCs. Managerial cognitive capabilities such as perception, attention, problem-solving, and communication skills underpin the capabilities of SSR (Helfat and Peteraf, 2015). The cognitive and emotional microfoundations of DCs can

Table I. Core building blocks of the capabilities framework

<i>Core building blocks</i>	<i>Weak ordinary capabilities</i>	<i>Strong ordinary capabilities</i>	<i>Strong dynamic capabilities</i>
Processes (includes routines)	Sub-par practices	Best practices	Signature practices to sense and business models to seize
Positions (resources and structures)	Ordinary resources Loose oligopolistic structure	Munificent ordinary resources Tight oligopolistic structure	VRIN resources Strong isolating mechanisms
Paths (strategy and strategic direction)	Doing things poorly	Doing things right	Doing the right things at the right time (good strategy and strategic direction)

Source: Adapted from Teece (2014).

also contribute to the development of sensing capabilities through open-system orchestration, orchestrators, and network members (Giudici et al., 2018).

Foundational to seizing is the selection of value propositions, business models and appropriability regimes (Augier and Teece, 2008; Pitelis, 2009; Teece et al., 1997). This helps determine how enterprises deliver value to customers and capture value. For instance, managerial decision making towards decentralization enables flexibility and responsiveness (Teece, 2007). The development and leveraging of DCs can be facilitated by the adoption of specific ways to manage and lead, such as strategic shared leadership (Pitelis and Wagner, 2019). As a core microfoundation of DCs, the ability to develop and refine business models involves innovation. Sensing capability is supported by managerial cognition, and seizing entails the building of an appropriability apparatus (Teece, 2007). Reconfiguration capabilities are closely related to the level of the ecosystem and wider context (De Silva et al., 2021; Jones and Pitelis, 2015). This is because the relevance of the resource base requires co-alignment with the external environment. While all three DCs are important for global strategy, reconfiguration is derivative of sensing and seizing, especially sensing. Sensing and the need to seize inform reconfiguration both during and prior to cross-border expansion. Once informed by sensing and seizing, however, reconfiguration becomes the essence of implementation (Pitelis, 2022).

Entrepreneurship within and outside of firms permits SSR and is underpinned by cognitive elements, such as entrepreneurial orientation, perception, vision and global mindset (Autio et al., 2011; García-Cabrera and Durán-Herrera, 2016; Jafari-Sadeghi et al., 2021) and imagination (Jones and Pitelis, 2015). Entrepreneurial action has been largely missing from the traditional economic theory of the MNE and FDI. More recent international entrepreneurship (IE) literature has emphasized proactiveness, risk-taking and innovativeness (Covin and Slevin, 1988). In IE, the concept of entrepreneurial orientation (EO) has become popular. EO can affect DCs as well as firms' international behaviours; for example, it can enhance firms' opportunity recognition and exploitation for global expansion (Bucciari et al., 2020; Eriksson et al., 2014).

Entrepreneurial imagination is absent from the economics-based rational choice approach to the MNE. Loasby (2001) argued that the creation of new patterns rests on imagination, not logic, and it is typically stimulated by a perceived inadequacy in established patterns. Imaginative efforts can draw upon prior experiences, learning, and insights. Entrepreneurs with experience in a particular context, such as their home country, can 'imagine' a situation in which suitably modified, and appropriately adapted conditions can be created cross-border. In such cases, imagined entrepreneurial realities that draw upon their experiences can help motivate decisions and actions that create and co-create a desired context for their intended operations at home and cross-border (Jones and Pitelis, 2015). This renders imagination an important aspect of the sensing part of DCs. Accordingly, both EO and entrepreneurial imagination can support SSR (Teece, 2014).

In the DCV, the MNE can proactively help create markets and business ecosystems. The MNE and other enterprises participate in co-creating the markets and are also co-created by the markets. In this way, consumer demand can be created through combined efforts alongside the supply potential. The two need not always match (Keynes, 1936). Organizational planning and strategy go as far as they can to help match these (Jones

and Pitelis, 2015). The overall outcome depends on the actions of the firm itself and the other participants in the market co-creation process, such as customers, suppliers, competitors, and potential entrants. These actions are partly endogenous to the actions of the MNE and partly dependent on the actions of the market's co-creators, which are often unknown or unpredictable. Put differently, much of the extant economic theory of the MNE and FDI assumes prior knowledge of the organizational internal and external environment and the opportunities it presents. For the DVC, all of these are co-created and co-evolving.

The business ecosystem concept relates to work on clusters (Pitelis, 2012; Porter, 1990). In the DCV cross-border market, cluster and business ecosystem co-creation are important reasons for the existence and global strategy of the MNE. The capability to orchestrate and leverage co-specialized and complementary assets across multiple jurisdictions to help co-create cross-border markets and business ecosystems is an important reason for the spectacular advances of internationalization (Pitelis and Teece, 2010).

Several scholars have reviewed the DCV literature and provided clarification and boundary conditions for the research area (i.e., Easterby-Smith et al., 2009; Fainshmidt et al., 2016; Pitelis and Wang, 2019; Schilke et al., 2018; Wang and Ahmed, 2007). Critical surveys have been used to assess the state of play so far and have proposed ways forward (Laaksonen and Peltoniemi, 2018; Schilke et al., 2018). However, the application of DCs to global strategy remains in its infancy. This is a major limitation in that DCs are of the essence in the semi-globalized, knowledge-based economic environment we live in. MNEs operate in jurisdictions that involve sovereign actors with a legal monopoly of force and often unique identities. This renders the MNE conceptually more 'interesting' and general than the domestic firm and, accordingly, a challenge to model and manage. DCs are important in sensing this and informing MNE global strategy.

As noted, IB theory focuses on the nature of the MNE and modalities of entry. Extant theories, such as John Dunning's ownership, location, internalization (OLI), and the country-specific advantages (CSA)/firm-specific advantages (FSA) framework of Rugman and Verbeke (2000), assume the existence of CSAs. DCs help explain the often prior question of where an MNE should be in terms of activities and locations. They can help companies sense CSA and seize opportunities that arise from cross-border locations and activities. They help identify, co-create, and align the FSAs and the CSAs.

In IB scholarship, the DCV has received comparatively limited, albeit growing, attention (Luo, 2000; Pitelis, 2022; Schilke et al., 2018; Zahra et al., 2022). Studies on the role of DCs in the cross-border expansion of firms, such as Pitelis and Teece (2010, 2018), Prange and Verdier (2011), Teece (2014), Grøgaard et al. (2019) and Zahra et al. (2022), have not made an explicit link to the wider issues of global strategy. An exception, albeit a limited one, is the role of DCs in the market, ecosystem, and more widely, context creation, co-creation, and orchestration. This is receiving growing attention in conceptual papers (Pitelis, 2022; Pitelis and Teece, 2010, 2018; Teece, 2014; Zahra et al., 2022).

While considerations of global strategy are critical for organizational performance, they remain poorly understood and tested in extant empirical research. In part, this is because of the lack of a comprehensive conceptual framework (Pitelis, 2022; Pitelis and Teece, 2019; Teece, 2014; Teece and Petricevic, 2021; Zahra et al., 2022). To address this gap, in the remainder of this paper, we first compare theory and evidence

on DCs and global strategy and identify gaps and disjuncts. Based on these, we then develop a novel conceptual framework that helps to better understand the relationships involved and guides future research aimed at achieving better congruence between theory and evidence. The next section is a systematic literature review that examines how the conceptual ideas have been interpreted, applied, developed, and tested empirically.

SYSTEMATIC LITERATURE REVIEW

Method

To conduct a systematic review of DCs, the MNE and global strategy literature, we employed content analysis (Drisko and Maschi, 2016; Krippendorff, 2004). Content analysis is suitable for identifying and summarizing trends in the extant literature and dealing with a large volume of unstructured data, such as text. It is also appropriate for qualitative and quantitative data analysis. It helps identify both manifest and latent content and enables the development of important themes from the literature (Duriau et al., 2007; Gaur and Kumar, 2018). To conduct our systematic review, we followed the six-step process suggested by Gaur and Kumar (2018). This entails selecting the appropriate database, selecting the sample literature with criteria that serve the purpose of the review and ensuring the reliability of this process, creating the coding scheme, coding the content of the sample, analysing the coding accuracy and testing the reliability, and summarizing and providing an interpretation of the coded content. We elaborate on these below.

Sample Selection

Our starting point is to search for sample literature. We focused on full-length, empirical, and conceptual peer-reviewed articles published between 1997 and 2021. The starting date was the seminal paper of Teece et al. (1997) on DCs, which also anticipated the development of DCV in the MNE context. To ensure the relevance and rigour of the sample literature, we set various criteria for identifying appropriate journals and articles. First, we investigated different indexes of journal rankings, including Thompson Reuters' 2020 Journal Citation Report, Chartered Association of Business Schools' (CABS) Academic Journal Guide 2021, Australian Business Deans Council's (ABDC) Journal Quality List and Leiden University's Centre for Science and Technology Studies (CWTS) Journal Indicators. The selected journals needed to satisfy at least two of the following four criteria: minimum 1.0 of 5-year citation impact factors, CABS 3 and above, ABDC B and above, and minimum 1.0 of source normalized impact per paper (SNIP). We did this to add diversity in designing the criteria and to avoid missing relevant journals (even when the journals were relatively young) while ensuring a minimum quality threshold.

Since the DC and MNE literature covers a variety of sub-disciplines, we included journals in the areas of management (e.g., *Academy of Management Review*, *Academy of Management Journal*, *Strategic Management Journal*), international business (e.g., *Journal of International Business Studies*,

Journal of World Business, International Business Review), entrepreneurship (e.g., *Entrepreneurship, Theory and Practice, Journal of Business Venturing*), Innovation (e.g., *Technovation, Journal of Product Innovation Management*), strategy (e.g., *Strategic Management Journal, Global Strategy Journal*) and organization studies (e.g., *Strategic Organization, Organization Science, Organization Studies*).

Search Method

We investigated different ranking systems and league tables, and selected target journals (Table II). To identify relevant articles, we implemented a keyword search across journals' home pages through different databases (e.g., Scopus, JSTOR, Emerald and Science Direct). Specifically, we searched for articles that contained words such as 'dynamic capabilit*' or 'dynamic* capabilit*' (the DCs set of keywords), and 'MNE', 'global' and 'internationalization' (the IB set of keywords). We mixed and matched the two sets of keywords in the initial search.

Following that, we read the search results one by one, including the abstract, keywords and main text of the articles, to evaluate whether they fit the criteria. These criteria included articles that (1) specifically used the term 'dynamic capabilities/capability' as the core of the study; or (2) explicitly categorized the capability/capabilities studied as a type of DC or highlighted their dynamic nature; or (3) adopted the DC perspective as the theoretical lens. As such, we have avoided distinguishing whether the capabilities studied in the sample articles are 'dynamic' or 'ordinary', an ongoing concern of DCV scholarship (see Fainshmidt et al., 2016; Laaksonen and Peltoniemi, 2018; Pitelis, 2022; Schilke et al., 2018). (4) All articles studied DCs in the international context, either in direct relation to firms' cross-border operations or by having collected data from MNEs; and (5) all articles provided conceptual developments or empirical testing (hence excluding pure review and editorial papers).

Since entrepreneurship has been an important and emerging topic in the DC literature (Jones and Pitelis, 2015; Pitelis and Teece, 2018; Schilke et al., 2018), we included papers that also studied small and medium-sized enterprises (SMEs), but only when they had undertaken FDI. As a result, papers that studied only firms' export activities were not included. This is in line with the definition of the MNE in the IB literature. Eventually, our search yielded a sample of 196 articles (Table II).

Data Coding and Analysis

Given the qualitative and quantitative nature of the content analysis, we developed a coding scheme that identifies patterns from the content (both manifest and latent) and provides descriptive and summative information. NVivo 12 software was employed to code the content because it allows manual coding and visualization of data. We first presented quantitative information, including bibliographic information, such as authors, years, journals, keywords, percentages and frequency count. Next, we coded the content into several main categories, each containing sub-categories. We then provided a qualitative interpretation of the coded content and summative analysis. Tables and graphs are used to present summaries of the sample literature, and each category is discussed in the text.

To best serve the purpose of this review, we combined three rounds of coding using NVivo 12 and followed an abductive approach. In the first round, we conducted open coding. Guided by review papers on DCs, such as Fainshmidt et al. (2016) and Schilke

Table II. Selected journals and articles

<i>Journals</i>	<i>5-Year impact factor</i>	<i>CABS</i>	<i>ABDC</i>	<i>SNIP</i>	<i>Number of articles identified</i>
General Management					
Academy of Management Review	12.397	4*	A*	5.03	2
Academy of Management Journal	11.807	4*	A*	4.75	2
Strategic Management Journal	7.843	4*	A*	3.62	2
Academy of Management Perspectives	7.697	3	A	3.00	2
Journal of Management Studies	7.493	4	A*	3.41	3
Journal of Business Research	5.484	3	A	2.76	13
Journal of Knowledge Management	4.890	2	A	2.71	3
California Management Review	6.511	3	A	3.19	2
Asia Pacific Journal of Management	3.909	3	A	1.87	4
British Journal of Management	4.372	4	A	1.99	3
Management Decision	2.886	2	A	1.55	3
European Management Journal	4.218	2	B	1.87	4
Management and Organization Review	2.872	3	A	1.17	3
Asian Business & Management	1.871	2	C	1.13	4
Journal of Management & Organization	1.808	2	B	1.29	1
European Management Review	1.972	3	C	0.93	3
International Business					
Journal of International Business Studies	9.977	4*	A*	3.78	15
Journal of World Business	6.774	4	A*	2.93	6
Journal of International Marketing	6.47	3	A	2.38	2
Global Strategy Journal	4.629	3	A	1.81	8
International Business Review	4.373	3	A	2.21	14
Journal of International Management	3.977	3	A	2	11
International Marketing Review	4.198	3	A	1.95	12
Management International Review	3.201	3	A	1.36	12
Cross Cultural & Strategic Management	2.313	2	B	1.23	3
International Journal of Emerging Markets	N/A	1	B	1.13	2
Multinational Business Review	2.216	2	B	0.87	3
Entrepreneurship					

(Continues)

Table II. (Continued)

<i>Journals</i>	<i>5-Year impact factor</i>	<i>CABS</i>	<i>ABDC</i>	<i>SNIP</i>	<i>Number of articles identified</i>
Entrepreneurship Theory and Practice	11.035	4	A*	3.93	6
Strategic Entrepreneurship Journal	6.128	4	A	2.64	2
Small Business Economics	5.377	3	A	2.78	1
International Small Business Journal	5.377	3	A	2.56	3
International Entrepreneurship and Management Journal	3.815	1	C	2.28	4
Entrepreneurship and Regional Development	4.108	3	A	1.89	1
<i>Innovation</i>					
Technovation	6.925	3	A	4.17	3
Journal of Product Innovation Management	7.057	4	A*	2.6	4
Industry and Innovation	3.151	4	A*	3.89	1
R & D Management	3.659	3	A	1.63	1
European Journal of Innovation Management	4.411	1	C	1.58	1
<i>Strategy</i>					
Business Strategy and the Environment	6.221	3	A	1.88	2
Long Range Planning	4.844	3	A	2.49	5
Technology Analysis and Strategic Management	2.105	2	B	1.06	2
<i>Organization Studies</i>					
Organization Studies	5.401	4	A*	2.56	1
Strategic Organization	4.118	3	A	2.62	2
Organization Science	4.947	4	A*	2.24	4
Group & Organization Management	4.159	3	N/A	1.82	3
Industrial and Corporate Change	2.601	3	A	1.4	8
<i>Total</i>					196

et al. (2018), we had a preliminary idea of the common themes in the research area, and we went through all the articles and coded any relevant content. During the second round, we were open to opportunities for new codes to emerge and derived a coding structure. We revisited the coding structure to add new elements or trim existing codes to serve the purpose of theory building. In total, we identified 50 codes. We then conducted axial coding to aggregate the related codes into themes (eight themes in total). In the third round, we went through all the sample articles again

with the refined subthemes (codes) to code the relevant text and avoid missing articles, and then counted the frequency of the concepts that appeared in the sample articles (Table SI). Finally, we categorized the codes and themes into conventional dimensions in theory-informed empirical studies: antecedents, dependent variables, independent variables, mediators and moderators.

The eight themes are *Global Strategies*, *Resources*, *Advantages*, *Innovation*, *Dynamic Capabilities*, *Entrepreneurship*, *External Environment* and *Performance*. Although we employed the software, we coded all the content manually instead of using auto-coding. The software helped in terms of convenience for text search, frequency count, data visualization and content organization. Two of the co-authors conducted double coding by going through the entire text of all sample articles and coding independently and then cross-checking each other's codes. They then reviewed the codes and themes to reach a common view and minimize overlaps and contradictions within the codes and themes.

The process enabled us to summarize the definitions and measures of DCs in empirical studies, identify the main and emerging themes of DCs in the MNE context, synthesize the variables and their relationships in empirical evidence, and compare them with the conceptual literature. In doing so, we were able to recognize under-researched areas of DCs in global strategy, with an eye to developing a more comprehensive novel conceptual framework aimed at guiding future research.

RESULTS

The literature we examined has witnessed fluctuating growth; the booming years were 2016, 2018, 2019 and 2020, with 18, 21, 26 and 21 articles published, respectively (Figure 1). Figure 2 shows examples of key authors and co-authorships in this area. Several clusters can be identified, such as the Augier–Teece–Pitelis cluster, which highlights the entrepreneurial perspective and orchestration aspects of DCs; the Khan–Kuivalainen–Larimo cluster, which employs DCs to explore features of firms from developed and emerging economies; and the Murray–Kotabe–Malik cluster, which focuses on the role of knowledge.

Of the 196 studies in our sample, 60 were conceptual articles and 136 were empirical (Figure 3). Among the empirical studies, the most popular method employed was quantitative analysis (71 articles) based on surveys (51 articles). Most of the 61 qualitative studies (49 articles) adopted the case study method, including cross-sectional, longitudinal, single and multiple cases. A handful of studies (four articles) combined quantitative and qualitative analysis using mixed data sources.

In what follows, we look at the extant literature in more detail, particularly the common terms used for DCs, paying attention to the MNE context and the empirical measures and proxies used. We then summarize the main and emerging themes and identify gaps and disjuncts.

Definitions and Measurements/Proxies of DCs in the IB Context

The definition and measurement of DCs are important ongoing concerns in the DC literature (Laaksonen and Peltoniemi, 2018; Pitelis, 2022; Schilke et al., 2018).

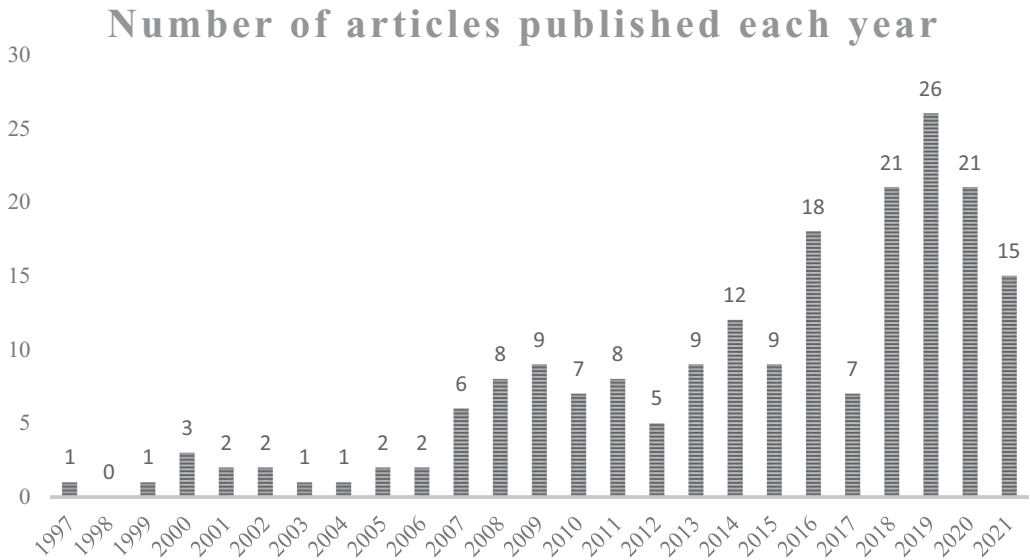


Figure 1. Number of articles published between 1997 and 2021

Table III provides the definitions of different DCs, their featured explanations in the context of the MNE, and the measurements/proxies adopted for these DCs in the empirical studies.

As highlighted in Table III, while the widely recognized SSR components of DCs have been defined, conceptualized and/or acknowledged in various studies for some time, they have not been measured directly in empirical research. Some qualitative studies explored the dimensions and mechanisms of SSR. For instance, De Silva et al. (2021) identified DCs in organizations' business model innovation process, specifically SSR for production and marketing in different countries. Song et al. (2016) provided specific dimensions of SSR capabilities, such as scanning and seeking various options for new technologies, for a case study of Samsung.

Some scholars have adopted proxies for DCs that are difficult to measure directly. For example, Buccieri et al. (2020) operationalized dynamic marketing capabilities as the ability to integrate, develop and reconfigure resources and skills related to marketing, and they used a seven-point Likert scale adopted from Weerawardena et al. (2015). DCs can be proxied by numbers and/or financial indexes, such as marketing expenditures as a proxy for dynamic marketing capabilities, factor score of asset depreciation to sales ratio as a proxy for asset management capability, and R&D expenditure as a proxy for dynamic technological capabilities (Fainshmidt et al., 2017; Konwar et al., 2017; Li-Ying et al., 2016).

It follows that despite progress, the operationalization of DCs still requires considerable development. The dominant way to conduct quantitative research on DCs is through surveys and questionnaires, and the results/answers depend heavily on managers' perceptions and interpretations. How DCs can be measured/proxied by numerical indicators and research to be conducted through secondary data remains underexplored.

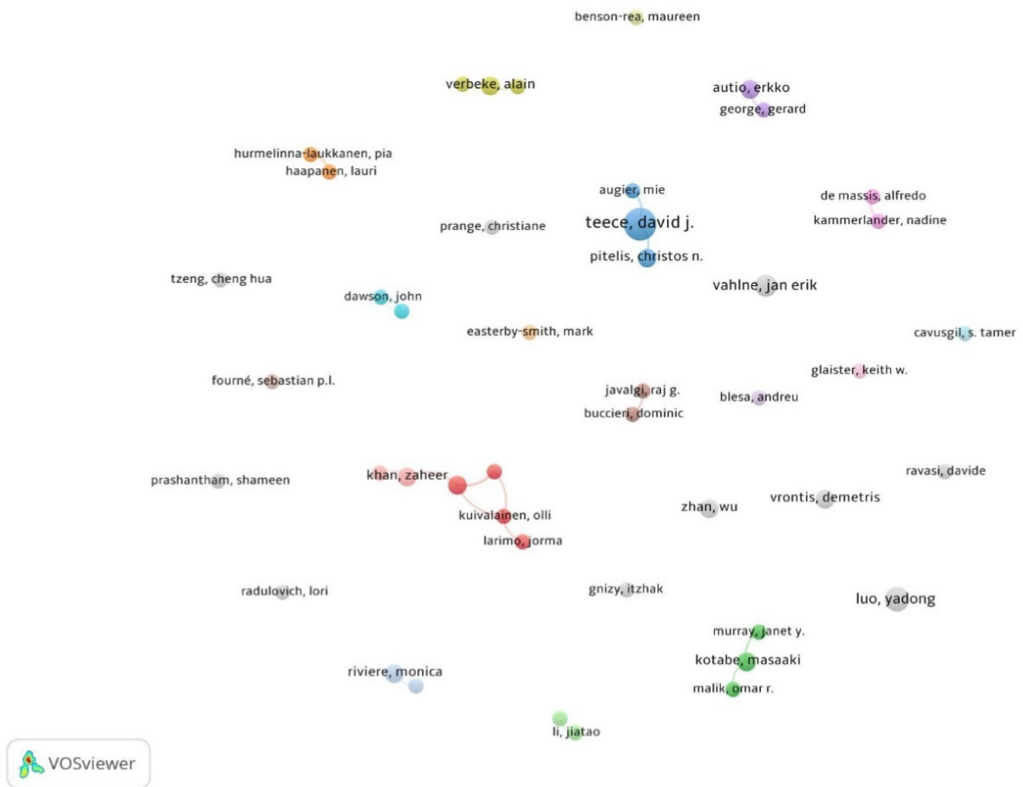


Figure 2. Co-authorship mapping

Another observation from the extant literature is that DCs and OCs are barely differentiated in empirical research. While conceptual studies have highlighted the importance of distinguishing DCs and OCs and investigating the relationships between them, only a small number of empirical studies have addressed this issue. For example, Michailova and Zhan (2015) conceptualized organizational and strategic routines as first-order DCs; generative, sourcing and integrative capabilities as second-order DCs; and dynamic knowledge capabilities as third-order DCs. Similarly, the R&D expenditures and technology diversification of firms are considered first-order DCs, while firms' dynamic technological capabilities are higher-order DCs; the former are typically organizational routines, and the latter are higher-order organizational heuristics that are harder to imitate (Li-Ying et al., 2016).

In addition, there are differences in the categorization of whether a DC is higher or lower order; for example, network capabilities are identified as lower-order DCs under marketing capabilities (Blesa and Ripollés, 2008), while others claim that network capabilities are higher-order DCs underpinned by relational capabilities and customer relationship management capabilities (Srećković, 2018). Verreyne et al. (2016) endeavoured to develop scales to measure higher-order DCs, such as dynamic learning capabilities, as well as subscales including repetition patterning,

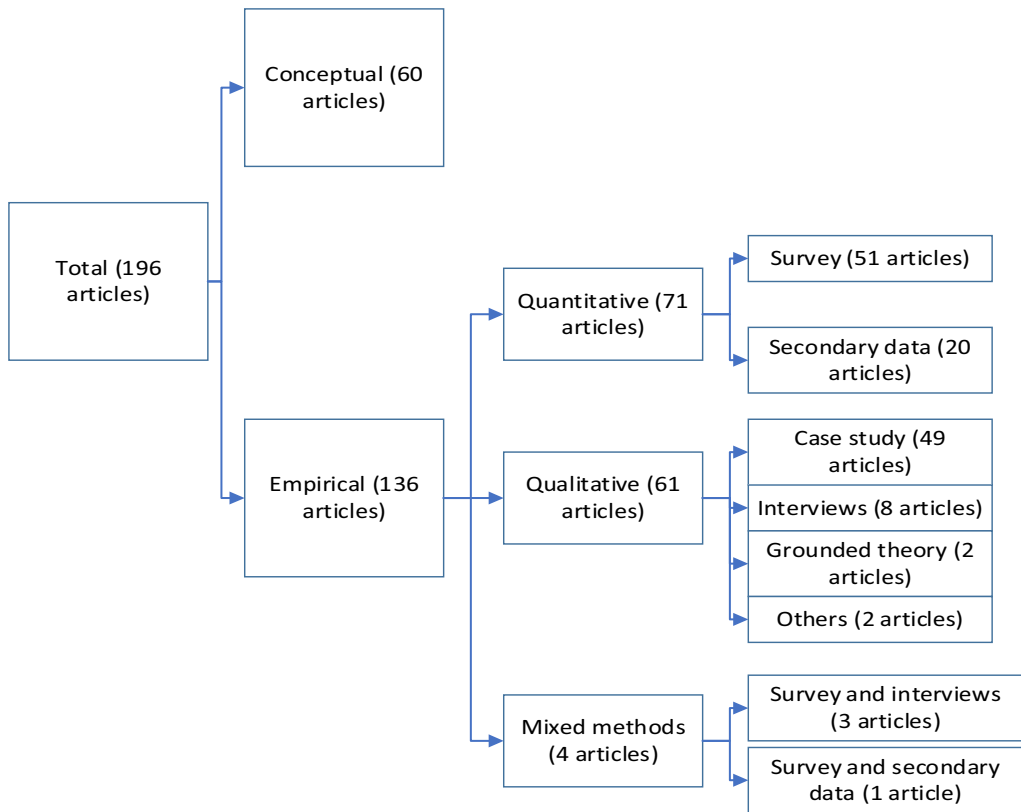


Figure 3. Methodological structure of sample articles

change intent, resource sustainability, and path-breaking, with 15 items to measure them. As previously noted, the measurement of OCs has received limited attention in empirical research. Overall, with regard to the definition and measurement of DCs in empirical research, gaps, disjuncts and limitations exist that require more attention and further development.

Themes of DCV and MNEs

Figure 4 shows that in the extant MNE literature, DCs are closely associated with internationalization, entrepreneurship, global strategy, and firm performance. This result was calculated and developed using VOSviewer software and showed similar results to our manually coded eight main themes (*Global Strategies, Resources, Advantages, Innovation, Dynamic Capabilities, Entrepreneurship, External Environment, and Performance*), therefore helping validate our coding. Supplementary Table SI shows the frequencies of the themes that appeared in the sample articles. Based on the statistics, we identified under-researched subthemes within the main themes. We identified three emerging subthemes (*market and ecosystem co-creation, imagination, and co-specialization*) that are particularly relevant to DCs in the MNE context but have received limited attention. We discuss these below.

Table III. Definitions and measures/proxies of DCs

<i>DC terms used</i>	<i>Explanation</i>	<i>Measures/proxies</i>
Knowledge capabilities	<p><i>Definition:</i> Dynamic knowledge capabilities include generative, sourcing and integrative capabilities for knowledge creation, acquisition and transformation.</p> <p><i>In MNE context:</i> MNEs' ability to develop, source and integrate knowledge globally. Helping firms catch up and narrow the knowledge gap with leading global companies.</p> <p>Examples: Dong et al. (2016); Liu and Rong (2015); Michailova and Zhan (2015)</p>	<p>Third-order DCs with three components: generative, sourcing and integrative capabilities.</p> <p>Operational knowledge management, product knowledge management and customer knowledge management.</p>
Innovation capabilities	<p><i>Definition:</i> Ability to refine and create new products, processes, services and markets, as well as commercialize innovations.</p> <p><i>In MNE context:</i> Capability that helps foreign affiliates use limited resources effectively to develop innovative strategies for business recovery, to prevent firms from exiting the foreign market. Enables MNCs to engage in paradoxical innovation streams by providing integrative value, such as subsidiaries and headquarters' activities for innovation.</p> <p>Examples: Chatterjee et al. (2022); O'Connor and DeMartino (2006); Sheng and Hartmann (2019); Tan and Sousa (2019); Yuan et al. (2016)</p>	<p>Technological innovation capability, abilities to cultivate R&D activities, process innovation capability.</p> <p>Product innovation, process innovation.</p> <p>Incremental innovation capability, radical innovation capability.</p>
Technological capabilities	<p><i>Definition:</i> Technical, R&D, innovative activities and processes.</p> <p>Ability to use technological know-how effectively and create new sets of products, processes, organizations and technologies.</p> <p><i>In MNE context:</i> Ability that influences the level of product adaptation to meet local needs and improves R&D activities in international markets.</p> <p>Examples: Davcik et al. (2021); Hsu and Chen (2009); Lee and Slater (2007); Li-Ying et al. (2016)</p>	<p>A count of the number of times a patent has been cited in a particular year (patent citation).</p> <p>Second-order capabilities with two components: R&D expenditures (in-house R&D) and technology diversification (changes in patent applications and the similarity of a firm's patent portfolios).</p>
Network capabilities	<p><i>Definition:</i> Ability to develop, maintain, coordinate, and exploit relationships, as well as accessing resources that are controlled by external actors through networks.</p> <p><i>In MNE context:</i> Essential ability to overcome liabilities of foreignness, create shared expertise and assets, and rapidly penetrate international markets with knowledge acquisition.</p> <p>Examples: Blesa and Ripollés (2008); Eriksson et al. (2014); Srećković (2018); Vahlne and Johanson (2013)</p>	<p>Relational capability, customer relationship management capability.</p> <p>A subset of marketing capabilities includes mutual trust, commitment, goals and sharing expertise with strategic partners.</p>

(Continues)

Table III. (Continued)

<i>DC terms used</i>	<i>Explanation</i>	<i>Measures/proxies</i>
Managerial cognitive capabilities	<p><i>Definition:</i> Managers' mental models, knowledge structure, personal beliefs, world view and perspectives that enable and adjust their behaviours, actions and strategic decision making.</p> <p><i>In MNE context:</i> Managers' ability to understand a foreign culture and manage complicated geographic spread when operating in a global business environment.</p> <p>Examples: Eriksson et al. (2014); Jiang et al. (2021); Tasheva and Nielsen (2020)</p>	<p>Managers' global mindset, managers' cognitive personality flexibility.</p> <p>Cultural awareness, global mindset and entrepreneurial orientation (innovativeness, proactiveness, risk-taking).</p>
Sensing capability	<p><i>Definition:</i> Sensing – ability to identify, assess and interpret market opportunities. Seizing – ability to respond to identified opportunities or threats, mobilize resources to address opportunities and capture value from it. Reconfiguring/transforming – continued renewal (of resources, business models, organizational structures, etc.).</p> <p><i>In MNE context:</i> Ability to identify and assess opportunities in local and foreign markets, orchestrate global assets to exploit opportunities and capture value, and continuously renew to evolve with the changing environment.</p> <p>Examples: Al-Aali and Teece (2014); Ayden et al. (2021); Giudici et al. (2018)</p>	<p>Sensing: Scanning and searching for new technologies, identifying customers' needs, rapid and accurate understanding of changes in the external environment, etc.</p>
Seizing capability		<p>Seizing: Fast development of new products, effective collaboration with partners and development of co-specialized assets, investment in the emerging domain with the knowledge needed for development, etc.</p>
Reconfiguring/transforming/renewal capability		<p>Reconfiguration: Achievement of decentralization, diverse technological alternatives, promotion of loose structure and semi-persistent asset orchestration, effective knowledge transfer, integration of expertise with stakeholders, etc.</p>
Recombination capabilities (legitimizing, leveraging and launching capabilities)	<p><i>Definition:</i> Ability to recombine capabilities and assets across intra- and interorganizational boundaries to enable organizational flexibility and face the changing environment; integrating, building and reconfiguring firm-specific advantages to address competitive pressure in the MNE context.</p> <p><i>In MNE context:</i> MNEs' higher-order FSAs that are both location-bound and non-location-bound, enabling MNEs to recognize and respond to opportunities to compete in global markets.</p> <p>Examples: Capron and Mitchell (2009); Grøgaard et al. (2019); Lee et al. (2021)</p>	<p>Legitimization of the need for changes, determination on leveraging certain parts of the organization and assessment on launching specific initiatives.</p>

(Continues)

Table III. (Continued)

<i>DC terms used</i>	<i>Explanation</i>	<i>Measures/proxies</i>
Ambidexterity (exploration capability and exploitation capability)	<p><i>Definition:</i> Exploratory capability: the ability of searching, experimenting, and applying for new activities, options, products, processes and relationships etc.</p> <p>Exploitation: ability of managing, refining and adding value to existing resources and markets; control and risk reduction.</p> <p><i>In MNE context:</i> balancing exploration and exploitation of resources and capabilities in international expansion to simultaneously enhance their domestic position and identify foreign opportunities.</p> <p>Examples: Lew et al. (2013); Prange and Verdier (2011); Sheng and Hartmann (2019); Wu and Vahlne (2022)</p>	<p>Exploratory capability: Adoption of new technological approaches for products and processes, incorporation of new aspects in the technological development, ability to obtain new managerial and organizational skills, ability to acquire new technologies and know-how for the firm, etc.</p> <p>Exploitative capability: Modifying and refining existing products and processes for current markets.</p>
Absorptive capability	<p><i>Definition:</i> Ability to acquire, assimilate and utilize external knowledge; combing and recombining internal knowledge with the acquired knowledge.</p> <p><i>In MNE context:</i> Ability to obtain advanced technology through FDI, key tool for employing firms' knowledge and technologically based acquisition and partnership to expand internationally.</p> <p>Examples: Blesa and Ripollés (2021); Kapoor and Aggarwal (2021); Panibratov and Klishevich (2020); Zhang et al. (2022)</p>	<p>Acquiring and assimilating knowledge, transforming and exploiting knowledge.</p> <p>Resource integration of partners, deployment of optimal resource structure, flexible restructure of the resources, application of pooled resources to respond to the changing needs of markets.</p>
Adaptive capability	<p><i>Definition:</i> Capabilities of anticipating and responding rapidly and effectively to changes in external environments through an outside-in perspective.</p> <p><i>In MNE context:</i> Ability to re-evaluate resources and capabilities and adjust them according to changes in foreign markets in a timely manner.</p> <p>Examples: Blesa and Ripollés (2021); Gölgeci et al. (2019); Panibratov and Klishevich (2020)</p>	<p>Alignment of organizational practices and traditions, flexible management system that enables quick response to market changes and provides quick response to new business demands.</p>
Learning capability	<p><i>Definition:</i> Ability to acquire external knowledge and combine it with internal knowledge base and utilize it, as well as generating and generalizing ideas.</p> <p><i>In MNE context:</i> Ability that enables MNEs to create and transform knowledge into economic products and services, to develop ownership advantages and diminish the liability of foreignness.</p> <p>Examples: Deng et al. (2020); Luo (2000); Matarazzo et al. (2021); Verreyne et al. (2016)</p>	<p>A higher-order DC that includes low repetition patterning, change intent, resource sustainability and path breaking.</p> <p>Reforms the existing capabilities with new knowledge, redeploying and reallocating resources and creating new knowledge and solutions through learning when a new opportunity is identified.</p>

(Continues)

Table III. (Continued)

<i>DC terms used</i>	<i>Explanation</i>	<i>Measures/proxies</i>
Marketing capabilities	<p><i>Definition:</i> A set of skills, knowledge and activities practiced through organizational processes, which allow firms to coordinate marketing activities, create customer value and differentiate products and services from rivals.</p> <p><i>In MNE context:</i> Ability to create value for international customers, develop effective marketing skills crucial to recognizing and accessing foreign opportunities.</p> <p>Examples: Blesa and Ripollés (2021); Bucciari et al. (2020); Hsu and Chen (2009); Konwar et al. (2017)</p>	<p>Networking capability, outside-in capability, inside-out capability, spanning capability.</p> <p>Marketing intensity (marketing cost to total sales).</p>
Integration capability	<p><i>Definition:</i> Ability to continuously acquire and manage resources, and to integrate internal and external resources.</p> <p><i>In MNE context:</i> Ability that helps MNEs to integrate knowledge that is location-bound and firm-specific with other knowledge for value creation, and to manage flows of knowledge across locations.</p> <p>Examples: Murray et al. (2009); Michailova and Zhan (2015); Parente et al. (2022); Pérez-Nordtvedt et al. (2013)</p>	<p>Intensive team collaboration to deal with interfaces between modules during product development, effectively divide responsibilities, retain necessary knowledge and expertise, assemble quickly once the components are ready, remove hidden interdependencies.</p>

The global strategy of the MNE is not only about entry modalities but is also related to the alignment with and shaping of the external environment within which firms operate. In such a context, orchestration skills and capabilities are key. In the scholarly literature, orchestration often refers to assets. However, it can be broader and can refer to the creation, co-creation and management of organizations, markets and business ecosystems, including global value chains (GVCs) and clusters/local production systems (Katkalo et al., 2010; Pitelis and Teece, 2019; Teece, 2014). Orchestration includes market and ecosystem co-creation (Pitelis and Teece, 2018). Cross-border market and business ecosystem creation and co-creation essentially require entrepreneurial managers (Jones and Pitelis, 2015; Pitelis and Teece, 2010). Orchestration capabilities become more important in the context of open team production, where team players are both internal and external to the firm (Berti and Pitelis, 2022). However, *market and ecosystem co-creation* (5.1 per cent) showed a relatively low frequency of appearance compared to other *External Environment* factors.

The process of creation and co-creation of cross-border markets and ecosystems is facilitated by entrepreneurial imagination, which is appropriability-informed and legacy-shaped (Jones and Pitelis, 2015). *Imagination*, alongside vision, perception, creativity, etc., are cognitive elements/capabilities that can underpin the SSR of dynamic capabilities (Giudici et al., 2018; Helfat and Peteraf, 2015). Despite their importance in conceptual studies of DCs, entrepreneurial cognitive elements have received limited attention. This is especially true for the *imagination* subtheme under the *Entrepreneurship* theme (3.1 per cent).

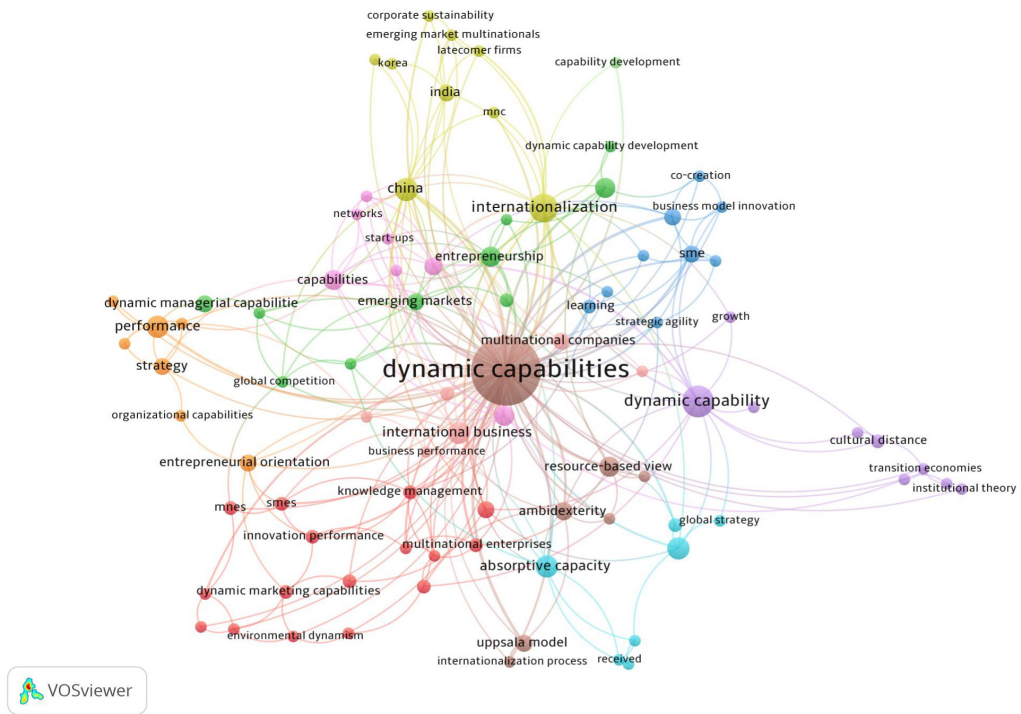


Figure 4. Co-occurrence

Co-specialization is a stronger version of complementarity and can be viewed as complementarity exclusive to two assets: activities and/or parties. Co-specialized assets have limited value outside the relevant area of application and hence are non-priced, meaning there is no market in which they can be readily bought and sold. This helps explain why it is often beneficial to bring together FSAs and CSAs in setting up an organization cross-border. Co-specialization challenges and opportunities are often discovered during cross-border activities. When internalization is deemed a preferable means of capturing value from such opportunities, the undertaking of activity inside the firm is chosen over market-based transactions. Hence, the nature of the organization (designing and setting up an organization) and the essence (employing strategy and a business model to help capture value) are co-determined. They are linked to asset co-specialization and the DCs required for orchestrating such assets. Like *imagination*, cross-border *co-specialization* of assets appeared with a frequency of only 7.7 per cent, which is the lowest among the subthemes of Resources.

A glaring omission in the literature refers to key issues of global strategy, such as where MNEs want to be in terms of locations and activities, products and services. As already noted, the OLI and the FSA CSA frameworks assume that there are pre-existing CSAs and FSAs that are clearly identifiable. The DCV is about seeing these and/or creating them and aligning the FSAs with CSAs. There is very little work on this in the literature, and this is a major area for development.

To summarize, global strategy entails more than internalization and includes the requisite agents, resources and capabilities and the shaping, co-creation and orchestration of the context within which MNEs operate. DCs are implicated in both developing and implementing a good strategy. They are more relevant for MNEs than national firms because of the added dimensions and layers implicated in addressing the key questions in a multinational context. This includes national borders and hence politics and geopolitics. However, while the relevance of the DCV to global strategy has been conceptualized, it has been poorly tested in a theory-congruent way. Moreover, a comprehensive conceptual framework has not been developed to help guide it. In the next section, we take stock of our findings, highlight the poorly tested/potential variables and relationships, and develop a novel, more comprehensive framework for studying DCs in MNE global strategy.

NOVEL CONCEPTUAL FRAMEWORK TO GUIDE RESEARCH ON DCs AND GLOBAL STRATEGY

As a basis for our conceptual framework development, we synthesized the variables studied in the empirical research. Table IV presents the main variables studied by the number of quantitative articles, and Table V summarizes the main themes and mechanisms in the qualitative articles.

Based on our findings so far, Figure 5 illustrates the development of a novel framework that is more comprehensive than hitherto available. It accounts for several variables and causal relationships identified in the existing literature, as well as more poorly tested variables and relationships. Compared to the classic theories of MNEs (Buckley and Casson, 1976; Coase, 1937; Dunning, 1980; Hymer, 1960/1976; Williamson, 1975), our framework highlights the roles of entrepreneurship, co-specialization, and cross-border market and ecosystem creation/co-creation in DCV in relation to MNE global strategy. These go beyond internalization and cross-border integration.

In keeping with established requirements for building an estimated equation for the DCV, our conceptual framework details the potential antecedents, dependent variables, independent variables, moderators, mediators, and control variables. It also points to the

Table IV. Variables of quantitative studies

	<i>Antecedents/ independent variables</i>	<i>Processes/ mediators</i>	<i>Moderators</i>	<i>Consequences/ dependent variables</i>
Global strategies (GS)	10	4	3	6
Resources (RS)	32	3	12	0
Advantages (AD)	2	1	0	0
Innovation (INN)	8	4	2	11
Dynamic capabilities (DCs)	25	23	8	12
Entrepreneurship (EN)	7	2	3	0
External environment (EE)	7	1	20	0
Performance (PF)	1	0	0	43

Table V. Main themes of qualitative studies

<i>Antecedents</i>	<i>Consequences</i>	<i>Mechanisms</i>
Entrepreneurship (EN)	Dynamic capabilities (DCs)	<p>Entrepreneurial orchestration enables co-creation of DCs with other parties in a business ecosystem and innovation network.</p> <p>Entrepreneurial cognition, orchestration and background affect DC development and trigger different evolutionary paths.</p> <p>Examples: Giudici et al. (2018); Laamanen and Wallin (2009); Ma et al. (2015)</p>
Dynamic capabilities (DCs)	Performance (PF)	<p>MNEs are more likely to create value and achieve superior performance when they have DCs to refine and re-create their business model and build a decentralized organizational structure based on the demand of host countries, and to co-create value with local partners.</p> <p>The ability to concurrently pursue emerging and mature strategies is critical for long-term performance, with an emphasis on mechanisms that enable companies' ability to continuously explore and exploit.</p> <p>Examples: Fourné et al. (2014); Vahlne and Jonsson (2017); Zeng and Glaister (2016)</p>
Dynamic capabilities (DCs)	Global strategies (GS)	<p>DCs affect MNEs' internationalization process through two sub-processes: knowledge development and commitment, to continuously facilitate opportunities discoveries and creation.</p> <p>Internationalization strategies represent trajectories (i.e., resource commitment, access to resources and market scope) of MNEs' international expansion, each of which requires specific roles of sensing, seizing and reconfiguring.</p> <p>Examples: Ayden et al. (2021); Haapanen et al. (2019); Wu and Vahlne (2022)</p>
External environment (EE)	Dynamic capabilities (DCs)	<p>DCs of MNEs in high-dynamism market are analytic, strategic high-frequency processes and routines, depending on the combination of global and local knowledge.</p> <p>Environmental uncertainty triggers the development of DCs in terms of organizing process and cognitive maps; this relationship is moderated by resource fungibility and degree of shared experiences.</p> <p>Examples: Autio et al. (2011); Dong et al. (2016); Li et al. (2019)</p>

key direction of causality (shown by direct lines/arrows) and the feedback loops (shown by dotted lines; Pitelis, 2022). These feedback loops relate to widely observed interdependencies in social science. For instance, DCs affect the resource base, and, in turn, the resource base impacts the DCs. We summarize the key constituents of our framework below.

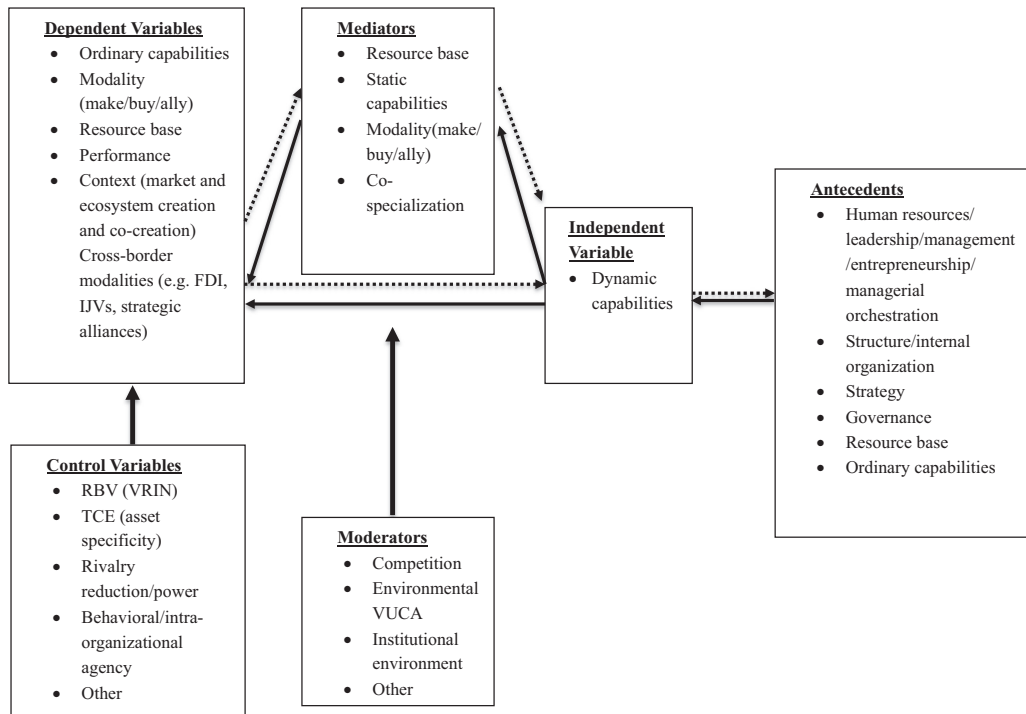


Figure 5. Conceptual framework of DCs and MNEs. Source: Authors.

Antecedents

Factors identified as antecedents for the development of DCs include human capital, organizational structures, strategies, governance, and resource base. Human capital, such as the CEO's age and experience, are considered micro-level sources of DCs (Rodenbach and Brettel, 2013). DC development is associated with entrepreneurship, especially managerial orchestration, and entrepreneurial cognition. Entrepreneurs' orchestration of external complementary resources can feed the seizing of opportunities (Ma et al., 2015), while 'open-system' orchestration can enhance a firm's sensing capabilities through co-creation with members across the network (Giudici et al., 2018).

Features of DCs, such as the integration and coordination of assets, require the alignment of organizational structure and strategies (Donada et al., 2016). Flexible organizational structures facilitate knowledge transfer and innovativeness, which contribute to creating DCs (Kapoor and Aggarwal, 2021). Structures, processes, routines, and skills are identified as cross-functional microfoundations of DCs, which may either positively or negatively influence synergies at product and market levels (Haapanen et al., 2019).

Some studies identified the impact of MNE global strategies on DC development. For example, Riviere and Bass (2019) found that dimensions of internationalization (depth, breadth and speed) have different impacts on MNEs' renewal capabilities. The influence of the former is negative, while the other two are positive. MNEs' global configurations of value chain activities through FDI were also contributors to DC development (Hsu and

Chen, 2009). Moreover, the international diversification of MNEs was argued to generate knowledge advantages in nurturing dynamic green capabilities (Maksimov et al., 2019).

From the potential antecedents of DCs, such as human resources/leadership/management, structure/internal organization, governance, strategy, resource base and static/ordinary capabilities, the empirical literature has mainly focused on human capital, such as the enabling role of CEO experience (Rodenbach and Brettel, 2013), stakeholders (Evers et al., 2012) and leadership (Khan and Lew, 2018). Organizational structure was found to be a facilitator or microfoundation of DCs (Donada et al., 2016; Haapanen et al., 2019; Kapoor and Aggarwal, 2021). Several other potential antecedents remain underexplored. The enabling role of governance is also underexplored in empirical studies, apart from being viewed as a microfoundation of opportunity seizing alongside business models (Khan et al., 2020).

Dependent Variables

Several variables have been used as dependent variables. These include financial indicators for performance, such as sales, profitability and return on investment, as well as non-financial indicators, such as competitiveness, reputation and achievement of strategic goals. (Wang, 2020; Zeng and Glaister, 2016; Zhan and Chen, 2013; Zhan and Luo, 2008). For example, managerial and network capabilities were found to positively affect MNEs' performance (including financial performance and market performance) in highly turbulent environments (Srećković, 2018). Some studies focused on value creation as the dependent variable (De Silva et al., 2021; Matarazzo et al., 2021) and found a positive relationship.

Another important dependent variable for DCs is SCA. Although various empirical studies have found a positive relationship between DCs (i.e., exploitative capabilities, explorative capabilities and flexibility) and SCA (Anning-Dorson, 2019; Ferreira et al., 2020; Zeng and Glaister, 2016), inconsistencies and some confusion remain. For instance, several scholars argued that DCs might be a necessary but insufficient determinant of SCA (Eisenhardt and Martin, 2000; Fainshmidt et al., 2016; Ferreira et al., 2020).

Besides performance, other potential dependent variables include ordinary capability, modality (make/buy/ally), resource base, context and cross-border modalities (FDI, international strategic alliances, international joint ventures) (Pitelis, 2022). From these, the modality and cross-border modalities as dependent variables of DCs have received some attention. DCs can explain organizational forms, FDI activities and international commitment according to empirical studies (Bell and Cooper, 2018; Vahlne and Bhatti, 2019; Yang et al., 2014). For example, absorptive capabilities can encourage a firm's asset-seeking FDI activities to acquire or create new resources (Yang et al., 2014). There is some empirical evidence that DCs can determine the foreign market entry mode of MNEs and eventually influence international performance (Blesa and Ripollés, 2008).

Despite its conceptual importance, context creation by DCs is missing in most empirical articles. While the impact of DCs on performance indirectly affects the context within which firms operate, it would be important to test directly whether, for example, they help create a new market through diversification. More empirical evidence is

needed to explore or test this. Also missing are studies on the impact of DCs on modalities such as FDI. It remains unclear how DCs or what types of DCs can lead to a specific cross-border modality.

Independent Variable

According to the theory, the key independent variable in the DCV is DCs, which have been measured in different ways that are not always congruent with theory. The theory entails the identification of human and non-human organizational attributes and their linkages. Most empirical work has focused on the former, and more work is required on organizational DCs and their interactions with human DCs. A notable one is the resource base and its relationship to human DCs, which remains underexplored.

Mediators

Mediators between the chosen dependent variable and the DCs include a firm's resource base, ordinary capabilities, and modality (make/buy/ally). The empirical evidence mainly focused on the make/buy/ally modality. For example, entry modes such as joint ventures, strategic alliances, acquisitions and greenfield investments can mediate the relationship between dynamic managerial capabilities and firm performance, alongside the geographic dispersion of assets (Tasheva and Nielsen, 2020). Blesa and Ripollés (2008) found that international commitment and level of direct investment can mediate the relationship between marketing capabilities and international performance.

However, the mediating effect of static/ordinary capabilities is underexplored. Firms need DCs to modify or reconfigure their resource base to build competitive advantages or enhance performance; the resource base includes both human and non-human elements as well as social capital (Helfat et al., 2007; Pitelis, 2022; Pitelis and Wagner, 2019). Furthermore, empirical studies in the sample paid relatively little attention to the potential mediating role of resource base on the relationship between DCs' and MNEs' performance/SCA. Intangible resources such as knowledge, organizational culture and reputation were more frequently studied than tangible resources (Bell and Cooper, 2018; Wan et al., 2015).

Moderators

Based on empirical studies, the external environment (e.g., market turbulence, competition and government policies) was often identified as a salient moderator for the relationship between DCs' and MNEs' performance/SCA. It was commonly found that environmental dynamism/uncertainty can positively moderate the relationship between DCs and firm performance/SCA (i.e., Gnizy, 2019; Srećković, 2018; Zhan and Luo, 2008). For example, environmental uncertainty can moderate the impact of managerial and network capabilities on firm performance (Srećković, 2018). Similarly, Gnizy (2019) found that inter-organizational international marketing capability dispersion can enhance firm performance through marketing programme adaptation, and that this mechanism is moderated by market dynamism and international marketing

coordination. On the other hand, this moderating effect may differ across different forms of DCs. For example, Gölgeci et al. (2019) identified three forms of DCs: innovativeness, supply chain agility, and adaptability. They found that host country institutional development weakens the impact of innovativeness and supply chain agility on international performance while strengthening the relationship between adaptability and international performance.

Competition and environmental volatility, uncertainty, complexity, and ambiguity (VUCA) were found frequently in the empirical studies. Apart from VUCA, several related terms were used, such as market dynamism and market turbulence (Buccieri et al., 2020; Gnizy, 2019; Srećković, 2018). While some studies see VUCA as moderators of the relationship between DCs and their consequences (Fang and Zou, 2009; Gnizy, 2019; Srećković, 2018), others found that VUCA moderates the relationship between DCs and their antecedents (Buccieri et al., 2020; Fang and Zou, 2009). Lu et al. (2011) found that industry competition moderates the relationship between resource base (technology-based competitive advantage and export experience) and global strategy (strategic asset-seeking and market-seeking outward FDI). With that exception, the moderating effect of competition is under-researched in the empirical papers. As noted, there is a lack of empirical studies on the moderating role of competition and market power/control.

Control Variables

The range of control variables was derived from other extant theories such as the RBV, notably VRIN resources, transaction cost economies (TCE) (notably asset specificity), rivalry reduction/power, behavioural/bounded rationality, and intra-organizational agency (Pitelis, 2022). Extant literature has commonly adopted internal (e.g., firm size, age, technology level) and environmental factors (e.g., government support, industry productivity, competition) as control variables (Blesa and Ripollés, 2021; Fainshmidt et al., 2016; Konwar et al., 2017). As controls, asset specificity, cognitive issues, market power and transaction costs are mostly missing in empirical studies.

Qualitative studies have focused on four key relationships: entrepreneurship and DCs, DCs and firm performance, DCs and global strategies, and DCs and the external environment (Table V). Empirical studies show that entrepreneurship is an important facilitator for DC; for example, entrepreneurial cognition, orchestration, and background affect DC development and trigger different evolutionary paths. DCs may also be triggered by environmental factors such as market dynamism and uncertainty, which require high-frequency processes and routines (Autio et al., 2011; Dong et al., 2016; Li et al., 2019). DCs influence MNEs' strategies (e.g., entry mode, resource commitment and market scope) through several underlying mechanisms, such as knowledge development and commitment, to continuously facilitate the discovery and creation of opportunities (Ayden et al., 2021; Haapanen et al., 2019; Wu and Vahlne, 2022). Firm performance, can be enhanced by DCs in the long term through the continuous recreation of structures, processes and business models, the co-creation of value and the exploration and exploitation of opportunities (Fourné et al., 2014; Vahlne and Jonsson, 2017; Zeng and Glaister, 2016). Few of these relationships have

been considered in empirical research and, as such, present opportunities for further research. For instance, the link between organizational structure and DCs remains underexplored.

RESEARCH OPPORTUNITIES AND POLICY IMPLICATIONS

Our key purpose was to compare theory and evidence to develop a novel conceptual framework to help guide future research. By critically assessing and extending the theory and evidence of the DCV of the MNE and global strategy, we identified disjuncts and gaps that helped us develop novel conceptual insights to guide further empirical research. These include the need to clearly identify, separate and proxy antecedents, dependent and independent and control variables, moderators and mediators and account for the several potential simultaneities. Several key aspects were found to be under- or unexplored.

Arguably, more is required to fully develop this framework, and this is an opportunity for further research. Our arrows in [Figure 5](#) are intended to show the key directions of the relationships. Feedback loops are shown with dotted lines. For instance, the choice of modality can depend on MNEs' perceptions of their abilities to shape the context. In such a case, instead of a causal relationship, we would have a simultaneous relationship. Empirical testing in such cases can be challenging. These challenges in accounting for causality and simultaneities remain a limitation and challenge of the empirical literature (Pitelis, 2022).

Our key advice for future research is to focus on a particular relationship and analyse it in depth, theoretically and empirically, including the control variables, mediators, and moderators. DCs should be both human and organizational. Adding to the SSR should be done with care, as most proposed additions can arguably be seen as subsets of the three (Pitelis, 2022). The distinction between OCs and DCs should always be kept clear, and both should be proxied appropriately. The set of potential dependent variables can be expanded to include modalities, ordinary capabilities and the external context. In the case of the MNE, it is a paradox that the canonical relationship between DCs and FDI remains underexplored. Global strategy should go beyond modalities of entry and even context co-creation and orchestration to addressing issues of where, when, how, and at what scale and speed. Simultaneities should be acknowledged, and in the case of econometric studies, accounted for, for instance, by using instrumental variables.

The DCV remains rather new and requires further conceptual and empirical analysis. As contributors to the field, we acknowledge a degree of confusion. This is in part because of the integrative nature of the framework that draws upon pre-existing ideas and concepts, places them in a dynamic setting, develops them, and helps make them more applicable in practice, while also adding new concepts, such as SSR, co-specialization and context co-creation and orchestration. This is a taller order than testing, for example, the relationship between asset specificity and vertical integration in TCE, as challenging as that was (Monteverde and Teece, 1982).

In conclusion, by comparing and contrasting theory and evidence on MNE global strategy, our paper helped identify gaps and disjuncts and develop a conventional but

more comprehensive novel conceptual framework that can help guide future conceptual and empirical research. Our work has important managerial implications. Good global strategy is arguably the holy grail of MNE, in that when successful, it helps the MNE acquire and sustain a competitive advantage, but when unsuccessful, it can lead to failure and even extinction. Our paper suggests that MNEs should choose a particular cross-border activity employing DCs to SSR based on the congruence between what they envision and what they can expect to achieve, and how and when it can be achieved through requisite resources and capabilities. Importantly, our research emphasizes that what MNEs can envision is based on the strength of their DCs. Moreover, the successful implementation of their plans depends on the MNE's ability to shape the context within which they choose/plan to operate. This also entails consideration of non-market strategies to include international business diplomacy (Doh et al., 2022). Hence, it also has implications for public policy. The latter is beyond the scope of this paper and represents an exciting future research opportunity.

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