Patterns of inconsistency: a literature review of empirical studies on the multinationality–performance relationship

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Abstract

Purpose – This study aims to understand the performance implications of when a business internationalizes. Many managers take the performance implications of internationalization for granted. Whether seeking a broader customer base or cost reduction through cross-border outsourcing, the overwhelming belief is that internationalization leads to higher profits.

Design/methodology/approach – This paper offers a systematic review, content analysis and cross-tabulation analysis of 115 empirical studies from over 40 major journals in management, strategy and international business between 1977 and 2021. Focusing on research settings, sample characteristics, underlying theoretical approaches, measurements of key variables and moderators influencing the multinationality and performance relationship, this study offers a detailed account of definitions and effects.

Findings – The findings of this study suggest a tenuous connection between internationalization and performance. No strain of research literature conclusively identifies a consistent direct path from internationalization to performance. The context specificity of the relationship makes general declarations impossible.

Research limitations/implications – Future researchers should recognize that internationalization is a process taking different forms, with no specific dominant form. General declarations are misleading. The focus should be on the process of internationalization rather than on the outcome.

Originality/value – This study contributes to the international business literature by exploring reasons for the inconsistent results and lack of consensus. Through a detailed account of definitions and effects, this paper explores the lack of consensus as well as the identified shapes of the relationship.

Keywords Literature review, Internationalization, Multinationality, Context, Performance, Geographic diversification, Moderators

Paper type Literature review

1. Introduction

A substantial body of research in international business, strategy and general management is devoted to understanding firm internationalization. In this paper, understanding the

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performance implications of internationalization is of particular interest. Over the past half century, research on the relationship between firm multinationality and performance has been growing steadily, and given the increase in internationalization activities, it is seen as a seminal issue in strategic management (Hitt *et al.*, 2006; Kirca *et al.*, 2011). The term "multinationality" is frequently used to describe the spread of a firm's international activities and refers to *the extent of value-adding activities conducted outside its home country* (cf. Hitt *et al.*, 2006; Lu and Beamish, 2004). In concrete terms, it is the extent of investment and/or control of assets and activities outside of the home market (Cantwell and Sanna-Randaccio, 1993; Teece, 1981). Multinationality measurements can be broadly divided into either scale or scope metrics (Rugman and Oh, 2011). There were only a few studies published prior to 1996 on the relationship between multinationality and performance, after which publication frequency increased dramatically.

Several theoretical perspectives, such as resource-based theory, internalization theory and organizational learning theory, offer explanations for the increased engagement in international activity. Two main arguments are that internationalization offers: increased strategic flexibility; and scale economies (Gaur *et al.*, 2011).

In addition, international expansion is argued to enable firms to acquire cheaper resources, reduce capital costs and diversify operations geographically (Benito, 2015; Dunning, 1993; Sapienza *et al.*, 2006). This, in turn, reduces risk and increases leverage. Together, these benefits are argued to have a positive effect on firm performance because they lower total costs and increase productivity (Yang and Driffield, 2012). The internationalization process also involves additional costs to a firm. International expansion generates a more complex and culturally diverse organization that is difficult to manage (Lu and Beamish, 2004). Early stages of the internationalization process are risky and carry high learning costs. Together, these costs have a negative effect on firm performance.

The contradictory outcomes of firm internationalization have triggered the interest for explaining the multinationality and performance (M–P) relationship, yet despite the large body of empirical research, results are inconclusive. Authors have found strong support for a *positive linear* relationship (Grant, 1987; Kim *et al.*, 1989; Kotabe *et al.*, 2002), a *negative linear* relationship (Michel and Shaked, 1986; Powell, 2014; Singla and George, 2013), a *U-shaped* relationship (Capar and Kotabe, 2003; Contractor *et al.*, 2007; Lu and Beamish, 2001), an *inverted U-shaped* (Geringer *et al.*, 1989; Hitt *et al.*, 1997; Tallman and Li, 1996), an *S-shaped* relationship (Contractor *et al.*, 2003; Lu and Beamish, 2004; Ruigrok *et al.*, 2007), an *M-shaped* relationship (Almodóvar, 2012; Almodóvar and Rugman, 2014; Lee, 2010) and a *W-shaped* relationship (Almodóvar, 2012)[1]. Meanwhile, some studies argue that there is no systematic relationship at all (Hennart, 2007; Rugman *et al.*, 2016). These inconclusive results suggest that we are far from reaching consensus on understanding the M–P relationship, and that additional empirical studies on the subject might not be the way forward, but rather to try to find the answers in the vast number of existing studies.

Tallman and Pedersen (2012, p. 313) highlight that the topic of multinationality and performance is, "[O]ne of the mainstays of studies of multinational enterprises and their strategies yet they remain disappointed by the fact that the 'empirical results [in previous studies] have largely been disappointing, perplexing, and inconclusive'". Contractor *et al.* (2007) speak of previous findings as contradictory and Hennart (2007) calls them disappointing. The diversity in the results is claimed to be attributed to underlying theories (Wiersema and Bowen, 2011), measures (Rugman and Oh, 2010, p. 484; Verbeke and Forootan, 2012), sampling issues, availability of data or how the M–P relationship is moderated. We suggest that one important step forward in finding possible explanations for the incongruent results is within the vast number of existing studies and not by conducting

yet another empirical study as there is reasons to suspect that it will only be another study with inconclusive results. In this paper, we analyze almost half a century of M–P literature, searching for patterns in the empirical studies to possibly bring clarity into why the results diverge. Through a detailed account of definitions and effects, the paper explores reasons for inconsistent results and lack of consensus within and across research streams as well as in relation to the identified shapes of the relationship. Consequently, we question the dominant academic discourse in international business focused on finding support for a relationship between internationalization and performance outcomes. It may well be futile to continue on the same path, testing new measures and moderators in pursuit of an explanation.

The paper offers a systematic review and content analysis of the international business, strategy and general management literatures, analyzing 115 empirical studies from 42 major journals between 1977 and 2021, with focus on:

- research settings;
- measurements of key variables;
- underlying theoretical approaches; and
- moderators influencing the M–P relationship.

By providing a systematic overview of M–P studies in the fields of international business, strategy and general management, this literature review also differs from existing review articles (Annavarjula and Beldona, 2000; Li, 2007; Nguyen, 2017; Nguyen and Kim, 2020; Sullivan, 1994) in multiple ways. First, one major contribution is to summarize and present moderators used to study the relationship between multinationality and performance. This has implications for questioning the direction of the causal link between multinationality and performance. Second, it illustrates and critically discusses the influence that different research settings, measurements, theoretical assumptions and moderators have on the M–P relationship. Third, it encompasses the most relevant empirical studies published over the past 44 years (i.e. since the start of the Uppsala School of Internationalization), investigating key constructs, measures, samples, major findings and analytical methods, making it the most recent and most comprehensive review so far.

2. Research methodology

The starting point for the systematic literature review and content analysis was a Boolean search in the *Web of Science* and *Business Source Premier* databases for peer-reviewed articles, using the self-constructed search string *[(multinational* OR international*) AND performance]*. The search was limited to the publication period between 1977 and 2021, and to journals in the fields of international business, general management and strategy that were rated 2, 3 or 4 in the Chartered Association of Business Schools Academic Journal Guide 2015. This was followed by an issue by issue search in the same fields in all 61 journals to ensure that no articles were overlooked. Appendix 1 presents an overview of the selected journals, as well as an indication of initial hits and articles included in this literature review.

Multinationality, internationality and performance are popular terms, especially within the international business literature and are often referred to or used for argumentation without defining or measuring the concepts. As the focus of this literature review is the relationship between the two concepts multinationality and performance, it is important that they were key concepts in the articles. As authors tend to mention their key concepts in the title, and to avoid an overly large and irrelevant sample of academic papers, the search was limited to the title of the article. This resulted in 491 articles. As some authors refer to multinationality or internationality as regional or geographic diversification, an additional

Boolean search in both databases and an issue-by-issue search in the selected journals was done with the self-constructed search string *[((region* OR geographic*) diversification) AND performance]* and the same limitations. This resulted in 152 additional articles. Moreover, to capture the variety in vocabulary used to describe multinational firms, a third Boolean search in both databases and an issue-by-issue search in the selected journals was done with the self-constructed search string *[(transnational* OR "born global*") AND performance]*, applying the same limitations as above. This resulted in 11 additional articles. As the search strings could overlap, all articles were downloaded into a citation management system and checked for duplicates. Duplicates were deleted, resulting in a sample of 654 unique scholarly articles.

The articles were confronted with a set of predefined exclusion criteria. Following Sinkovics and Reuber (2021), a search protocol with a detailed account of the exclusion criteria can be found in Appendix 2. First, both multinationality and performance had to be key variables in the study, excluding those studies where, for example, one of the concepts was used as a control variable. Second, studies included in the literature review had to measure corporate performance, meaning that those studies measuring either:

- different kinds of performance (such as corporate social performance or environmental performance); or
- the unit of analysis was not on a firm level (e.g. subsidiary performance) were excluded from the study.

Third, studies had to undergo a qualitative assessment by the researcher about their relevance for the literature review. For example, a study by Jean *et al.* (2015) fulfilled the previous criteria, but focused its analysis on the customer–supplier relationship. Consequently, a number of studies could not be included in the final sample because:

- either multinationality or performance were used as a moderator or control variable (−16 articles);
- different kinds of performance were measured (−110 articles);
- performance was not measured on a corporate level (−36 articles);
- different kinds of diversification (e.g. product diversification or board diversification) were measured (−92 articles); and
- multinationality and/or performance were not a key variable (−261 articles).

As our focus was on the empirical findings, we limited our sample to only empirical papers. As a consequence, from the remaining 139 articles that fulfilled the requirements outlined above, conceptual papers[2] (−7 articles) and literature reviews[3] (−10 articles) were excluded. We also excluded meta-analyses[4] (−7 articles) for two reasons. First, the results of meta-analyses are based on largely the same empirical papers as are used for this literature review. Second, meta-analyses are highly criticized for investigating weakly defined and operationalized constructs that could lead to misleading results (Klein and Delery, 2012). Therefore, the final sample consists of 115 empirical studies. Table 1 provides an overview of the search results and exclusion criteria, and their effect on the final sample. Appendix 3 summarizes the 115 empirical articles in the final sample, highlighting their theoretical perspective, dependent and independent variables, moderators and the form of their relationship.

Stage	Task description	+/−	Total
1	Systematic Boolean search in journals in the fields of General Management, International Business and Strategy that are rated 2, 3 or 4 in the Chartered Association of Business Schools Academic Journal Guide 2015 ranking, using the self-constructed search string [(multinational* OR international*) AND performance] in TITLE from 1977-01-01 to 2021-12-31	+491	491
2	Systematic Boolean search in journals in the fields of General Management, International Business and Strategy that are rated 2, 3 or 4 in the Chartered Association of Business Schools Academic Journal Guide 2015 ranking, using the self-constructed search string [((region* OR geographic*) diversification) AND performance] in TITLE from 1977-01-01 to 2021-12-31	+152	643
3	Systematic Boolean search in journals in the fields of General Management, International Business and Strategy that are rated 2, 3 or 4 in the Chartered Association of Business Schools Academic Journal Guide 2015 ranking, using the self-constructed search string [(transnational* OR "born global*") AND performance] in TITLE from 1977-01-01 to 2021-12-31	+11	654
4	Exclusion due to:		
	M or P is moderator or control variable	−16	
	Different kinds of performance	−110	
	P is measured not on a firm level	−36	
	Different kinds of diversification	−92	
	M and P are not key variables	−261	
5	Exclusion due to	−515	139
	Conceptual paper	−7	
	Literature review	−10	
	Meta-analysis	−7	
		−24	115

Table 1. Overview of search results, exclusion criteria and their effect on the final sample

Each article underwent a content analysis where information about different parameters was collected and coded categorically. In a first step, each article was given equal attention and coded descriptively and attributively (Saldaña, 2015, pp. 59–64). In a next step, the initial descriptive and attributive codes were categorized into clusters based on similar attributes. In a final step, the clusters were aggregated to a topical, descriptive level, and organized into main categories and subcategories. Table 2 shows the three levels of the categorization scheme. The categories included information about the underlying theoretical arguments and information about the sample and research context, for example, the region where the research was conducted, firm size and industry. Fundamental to understanding the relationship is to also understand how it has been measured. Thus, the categorical codes include different types of performance (e.g. accounting-based, market-based or operational performance) and their measures (e.g. return on assets, return on sales, return on equity, Tobin's Q), different types of multinationality (e.g. structural or financial measures, or index-based) and their measures (e.g. foreign sale to total sales, foreign assets to total assets, ratio of foreign to total employees, number of countries the firm has operations/subsidiaries in) and finally the shape of the identified relationship between multinationality and performance. The codes for the moderators (e.g. firm characteristics, home-country context or strategy) and their measures (e.g. firm size, firm age, family ownership, entry mode or cultural diversity) were derived descriptively and attributively in order to cover the full range of moderators applied to the M–P relationship literature.

Table 2.
Categorization scheme for content analysis

Level 1	Level 2	Level 3
Country/Region	USA (1/0)	USA (1/0)
	EU (1/0)	e.g. UK, Germany, Switzerland, Spain, France, Italy
	ASIA (1/0)	e.g. Japan, India, Singapore, Taiwan, China
	Other(1/0)	Other (1/0)
Multiple vs single country focus (1/0)	Multiple = 1	
	Single = 0	
Size of firm	SME (1/0)	
	Large firms/MNE (1/0)	
	SMEs and large firms (1/0)	SME = 1 AND large firm = 1
	Not stated (1/0)	
Industry	Manufacturing (1/0)	
	Service (1/0)	
	Manufacturing and service (1/0)	Manufacturing = 1 AND service =1
	Not stated (1/0)	
Performance measurements	Financial (1/0)	e.g. ROA, ROI, earnings per share, Tobin's Q
	Operational (1/0)	e.g. product-market outcomes, internal process outcomes
	Overall effectiveness (1/0)	e.g. reputation, survival, perceived overall performance, achievement of goals
Multinationality measurements	Structural (1/0)	e.g. number of regions, number of countries with subsidiaries
	Financial (1/0)	e.g. FSTS, FETE, FOTO
	Index (1/0)	e.g. continuous index
Theory	Economic theories (1/0)	e.g. transaction cost theory, FDI, agency theory
	Behavioral theories (1/0)	e.g. organizational learning, internalization theory
	Resource-based view (1/0)	
	Phenomenon-driven (1/0)	
	3-stage theory (1/0)	
	Unclear (1/0)	
	Other (1/0)	
Moderators	Firm characteristics (1/0)	e.g. firm size, firm age, leverage, family ownership
	Home-country context (1/0)	e.g. home country legal institutions, normative institutional distance
	Strategy (1/0)	e.g. advertising intensity, entry mode, R&D intensity, product diversification, cultural diversity

3. Results

Table 3 provides an overview of the identified shapes of the M–P relationship by the year of the published articles. It shows that, although there were some studies published earlier, it was during the late 1990s that the M–P relationship as a research topic became more and more popular. This can be explained with the general raise of globalization that triggered

	POS LIN $N = 38$	NEG LIN $N = 12$	U $N = 15$	INV U $N = 29$	S $N = 19$	M $N = 3$	NONE $N = 10$	No. of published articles $N = 115$
1977–1987	1	1						3
1983								1
1986		1						1
1987	1							1
1988–1998	2			3	1		4	10
1989	1			1			1	3
1995							1	1
1996	1			1			1	3
1997				1				1
1998					1		1	2
1999–2009	13	3	8	9	7		1	36
1999				1				1
2000	1	1						2
2001	1		1					2
2002	1							1
2003			3	1	1			4
2004		1			2			3
2005	2							2
2006	2		1	2				4
2007	2		2	2	2			5
2008	3			1	2		1	7
2009	1	1	1	2				5
2010–2021	22	8	7	17	11	3	5	66
2010				3	2			5
2011	2	1		1				4
2012	3	1		2	3	1	1	11
2013	3	1			1	1		6
2014	1	1		3		1		5
2015	1	1		1	1			3
2016	1	1	3	2	2		1	7
2017	5		1	1	1		2	8
2018	3	1		1	1			6
2019	2		2	1				4
2020		1					1	2
2021	1		1	2				5

Notes: Some papers have either found multiple different shapes or have not made a clear statement about the identified shape of the relationship. Therefore, the amount of papers published per period does not match the total amount of identified shapes per period. POS LIN = The paper has found a positive linear relationship between M and P; NEG LIN = The paper has found a negative linear relationship between M and P; U = The paper has found a U-shaped relationship between M and P; INV U = The paper has found an inverted U-shaped relationship between M and P; S = The paper has found a S-shaped relationship between M and P; M = The paper has found a M-shaped relationship between M and P; NONE = The paper has found no relationship between M and P

Table 3. Shape of the M–P relationship by year of published articles

research projects associated with the performance outcomes of global activities. During the past 12 years, the research field grew even more, peaking with 11 publications in 2012. The identified shapes of the relationship however are scattered across the whole spectrum, leading to no clear pattern that could be associated with the year of publishing and the identified shape. In most recent years, a positive linear shape, along with an inverted U-shape and S-shape are the most dominant found relationships. Part of the explanation for this finding is due to the evolution of statistical analysis that has allowed for more complex investigation of nonlinear relationships, which indicates that a continuous development in statistical methods also in the future might contribute to our findings rather than the factual relationship between multinationality and performance.

The content analysis presented in Table 4 shows a summary of the frequency of the coded categories, such as type of theory, cross-tabulated with the shapes of the relationships between multinationality and performance. To test for whether there is an association between the identified relationships between multinationality and performance (including no relationship), and the theory used, the region, firm size, industry, measurement type for performance and multinationality, and type of moderator, we did a cross-tabulation analysis. Using the data from Table 4, we applied the chi-square test for independence to all possible 2×2 cross-tabulation tables. This tests for a statistically significant association between categories, for example, the type of theory and the form of the relationship between multinationality and performance. No chi-square test indicated a statistically significant pattern between categories.

Findings reveal a great variety of empirical studies investigating the M–P relationship. This can be observed in:

- different research settings;
- measurements of key variables;
- underlying theoretical approaches and identified shapes of the M–P relationship; and
- moderators influencing the M–P relationship.

All of these approaches contribute to diverse and inconsistent findings, thereby confounding the search for a unified theory for the relationship between multinationality and performance. Below, the diverse approaches are presented in more detail. They are contrasted with the outcomes presented in the papers to identify possible patterns in previous findings.

3.1 Research settings

Variety within the research setting is beneficial to the overall validity of findings. While the majority of studies still choose to focus on a single country as their research setting (81 studies), using comparative studies in the form of investigating and comparing multiple countries has been on the rise. With a dramatic increase from three studies between 1988 and 1998 to 11 studies in 1999–2009, and even 17 studies between 2010 and 2021.

Yang and Driffield reported in 2012 that 42% of studies use a US sample, indicating an overrepresentation of US firms. Our results show 38.3% of empirical studies focus on US firms, 35.6% on European firms and 42.6% on Asian firms, indicating that since 2012 the research settings have become more balanced. Table 5 shows that the amount of positive linear relationships and inverted-U shaped relationships is also quite evenly distributed between Asian, European and US firms.

Table 4. Categorization of results for cross tabulation

		POS LIN	NEG LIN	U	INV U	S	M	NONE
Country/region								
	USA (44)	12	4	3	14	8		5
	EU (41)	13	3	5	13	7	2	4
	Asia (49)	19	6	5	13	5		5
	Other (21)	10	1	1	5	3	1	2
Multiple vs single country focus								
	Multiple countries (32)	11	2		11	4		6
	Single country (81)	27	10	14	17	15	3	3
Size of firm								
	SMEs (10)	2	1	2	5	1	2	
	Large firms (62)	19	6	7	18	6		8
	SMEs and large firms (6)	3	1	1		3		
	Not stated (37)	14	4	5	6	9	1	2
Industry								
	Manufacturing (44)	12	5	2	14	8	3	4
	Service (14)	4	2	2	3	4		1
	Manufacturing and service (36)	12	3	7	10	5		3
	Not stated (20)	9	2	4	2	2		2
Time frame								
	1–6 years (59)	19	4	6	18	7	1	7
	7–35 years (55)	18	8	9	11	12	2	3
Performance measurements								
	Financial (110)	35	11	15	29	19	3	10
	Operational (11)	5	2	1	1	3		
	Overall effectiveness (4)	2	2					
Multinationality measurements								
	Structural (43)	14	6	6	11	5		5
	Financial (74)	26	6	9	20	12	3	5
	Index-based (26)	9	2	4	5	6		3

(*continued*)

Table 4.

		POS LIN	NEG LIN	U	INV U	S	M	NONE
Theory								
	Economic theories (41)	15	5	4	12	7		1
	Behavioral theories (40)	10	7	4	8	6	2	3
	Resource-based view (24)	8		3	6	3	1	2
	Phenomenon-driven (32)	9	3	4	9	5	1	5
	3-stage theory (14)	2	3	4	2	5		
With or without moderators								
	With moderators (54)	22	5	7	15	8	1	3
	Without moderators (61)	16	7	8	14	11	2	7
Moderators								
	Firm characteristics (22)	8	4	3	5	2		2
	Home country context (12)	7			4	1	1	1
	Strategy (29)	10	2	4	10	7		

Notes: Some papers have either found multiple different shapes or have not made a clear statement about the identified shape of the relationship. Therefore, the amount of papers published per period does not match the total amount of identified shapes per period. POS LIN = The paper has found a positive linear relationship between M and P; NEG LIN = The paper has found a negative linear relationship between M and P; U = The paper has found a U-shaped relationship between M and P; INV U = The paper has found an inverted U-shaped relationship between M and P; S = The paper has found a S-shaped relationship between M and P; M = The paper has found a M-shaped relationship between M and P; NONE = The paper has found no relationship between M and P

		POS LIN	NEG LIN	U	INV U	S	M	NONE	No. of published articles
USA		12	4	3	14	8		5	44
	1977–1987		1						2
	1988–1998	1			3	1		3	8
	1999–2009	6	1	2	7	3		1	16
	2010–2021	5	2	1	4	4		1	18
Europe		13	3	5	13	7	2	4	41
	1977–1987	1							2
	1988–1998	1			1			2	4
	1999–2009	4	1	2	3	1		1	11
	2010–2021	7	2	3	9	6	2	1	24
Asia		19	6	5	13	5		5	49
	1977–1987								
	1988–1998							3	3
	1999–2009	5	2	3	4	2			15
	2010–2021	14	4	2	9	3		2	31
Other countries		10	1	1	5	3	1	2	21
	1977–1987								
	1988–1998								
	1999–2009	4	1	1	2	1			7
	2010–2021	6			3	2	1	2	14
Emerging market countries		13	4	3	11	3		4	38
	1977–1987								
	1988–1998							1	1
	1999–2009	4	1	2	3	1			10
	2010–2021	9	3	1	8	1		3	24
Multiple countries; comparative studies		11	2	0	11	4	0	6	32
	1977–1987								1
	1988–1998				1			2	3
	1999–2009	5	1		5	1		1	11
	2010–2021	6	1		5	3		3	17

Notes: Some papers have either found multiple different shapes or have not made a clear statement about the identified shape of the relationship. Therefore, the amount of papers published per period does not match the total amount of identified shapes per period. POS LIN = The paper has found a positive linear relationship between M and P; NEG LIN = The paper has found a negative linear relationship between M and P; U = The paper has found a U-shaped relationship between M and P; INV U = The paper has found an inverted U-shaped relationship between M and P; S = The paper has found a S-shaped relationship between M and P; M = The paper has found a M-shaped relationship between M and P; NONE = The paper has found no relationship between M and P

Table 5. Country/region by shape of the M–P relationship

In total, 38 studies out of 115 explicitly state that they investigate emerging markets. Between 1988 and 1998, there was only one study with an emerging market setting. During the following decade there were 10 studies, and the decade after that there were 24. The most dominant identified shapes of the M–P relationship were positive linear (9 studies) and inverted-U shaped (8 studies). This indicates that, as with many other field of research, emerging markets have become more and more relevant to the research setting and are likely to continue to grow in importance in the future. Overall, positive linear and inverted-u shaped relationships are the dominant forms throughout the different research settings. Nevertheless, no consistent linear or nonlinear pattern is observed for the M–P relationship when investigating different countries. Furthermore, there is no difference in papers focusing on single or multiple countries (see Table 4).

3.2 Sample characteristics

Concerning characteristics of the samples used in the empirical studies, 7% of the studies solely investigate small- and medium-sized firms, while 45% focus on large firms. As many large firms might be publicly listed, financial information is easier to obtain from their annual reports than for small- and medium-sized firms. This might explain an overrepresentation of large firms in previous empirical studies. Interestingly, 27% of the studies were not clear in reporting the size of the firm. Comparing firm size with the identified relationship shapes, no clear pattern can be observed. Interestingly, the category for large firms is the largest group in the sample and finds all the different relationships except for an M-shape. Again, positive linear and inverted-U shaped relationships are the most commonly identified M–P relationships for empirical studies investigating large firms. However, it may simply mean that none of the studies tested for the M-shape. Those studies that have not stated any firm size explicitly found an S-shaped relationship as the second most prominent relationship identified (after positive linear).

Concerning industry, there is a bias toward manufacturing firms. Forty-four studies solely consider manufacturing, whereas only 14 solely look at the service industry. Thirty-six are blended studies and 20 do not reveal the industry the study was investigating. Comparing the different shapes to the industries, no clear pattern is observed (see Table 6). All industries are represented in every category, except for the M-shaped relationship.

	POS LIN	NEG LIN	U	INV U	S	M	NONE	No. of published articles
Manufacturing	12	5	2	14	8	3	4	44
1977–1987	1	1						2
1988–1998				2			3	5
1999–2009	6	2	1	3	4			14
2010–2021	5	2	1	9	4	3	1	23
Service	4	2	2	3	4		1	14
1977–1987								
1988–1998								
1999–2009	1		1	1	1		1	5
2010–2021	3	2	1	2	3			9
Manufacturing and service	12	3	7	10	5		3	36
1977–1987								
1988–1998					1		1	2
1999–2009	5		4	4	1			11
2010–2021	7	3	3	6	3		2	23
Not stated	9	2	4	2	2		2	20
1977–1987								1
1988–1998	2			1				3
1999–2009	1	1	2	1	1			6
2010–2021	6	1	2		1		2	10

Notes: Some papers have either found multiple different shapes or have not made a clear statement about the identified shape of the relationship. Therefore, the amount of papers published per period does not match the total amount of identified shapes per period. POS LIN = The paper has found a positive linear relationship between M and P; NEG LIN = The paper has found a negative linear relationship between M and P; U = The paper has found a U-shaped relationship between M and P; INV U = The paper has found an inverted U-shaped relationship between M and P; S = The paper has found a S-shaped relationship between M and P; M = The paper has found a M-shaped relationship between M and P; NONE = The paper has found no relationship between M and P

Table 6.
Industry by shape of the M–P relationship

Between 2010 and 2021, there were three published articles finding an M-shaped M–P relationship for manufacturing firms.

When comparing the time-span of the samples in each of the empirical studies, no pattern emerges. As can be seen in Table 6, papers divided into long-term perspective (from 7 years up to 35 years) and short-term perspective (from 1 year up to 6 years) are quite homogenously distributed. Though, there is a slight trend for long-term perspective studies to more frequently find an S-shaped relationship. This could be explained with that to identify an S-shaped M–P relationship, longitudinal data is required, to fully plot an S-shaped relationship.

3.3 Underlying theories

Within the internationalization process literature, multiple theories have been applied to explain both the benefits and drawbacks of an increased degree of multinationality and its effect on performance. Although many studies apply different theories in an attempt to explain the assumed causal relationship between multinationality and performance, there are no conclusive results connected to the use of the underlying theory. However, certain trends can be observed. For example, it is not surprising that no study using the resource-based view found a negative linear relationship between M and P. Although the sample is quite small, the logics behind the resource-based view, advocating for benefits of internationalization stemming from the exploitation of firm strategic advantages, indicates a positive relationship. Finding a negative linear relationship would contradict the theory.

Economic theories, such as transaction-cost theory, mainly found a positive linear and an inverted-U shaped M–P relationship. Interestingly, only 1 out of 41 studies using an economic theory found no relationship at all. Table 7 provides a detailed account of the theories and the identified shapes of the M–P relationship over the years.

3.4 Measures of multinationality and performance

Findings related to the broad variety of measures used for both key variables are presented in Table 8. To capture the depth of the key variable *Multinationality*, it was split into structural, financial and index-based measurements. Financial measurements are the most dominant (64%), followed by structural (37%) and index-based measures (23%). The ratio between foreign sales to total sales is the key financial measure for multinationality, employed in 84% of the studies. The number of foreign subsidiaries is measured in 58% of the studies and is the leading measure for structural multinationality. For index-based measures, an entropy measure is most popular.

For the key variable *Performance*, we followed Hult *et al.* (2008), and split the performance measure into financial performance, operational performance and overall performance. By far (110 studies), financial performance is the dominant measure. The most popular measurement for financial performance is return on assets (57%). Comparing the different types of measures, no patterns are identified concerning the M–P relationship. Note that many studies use multiple measures, so the totals exceed the 115 papers included in Table 8.

3.5 Moderators

M–P research strongly suggests a dynamic relationship that requires going beyond simple linear explanations (Lu and Beamish, 2004). Given their fundamental importance to understanding the M–P relationship, we documented all moderating variables. We report a detailed record in Appendix 4. In total, 54 out of the 115 empirical studies (i.e. 47%) have introduced at least one moderator, and 90 unique moderators are identified. It is important to

	POS LIN	NEG LIN	U	INV U	S	M	NONE	No. of published articles
Economic theories	15	5	4	12	7		1	41
1977–1987		1						1
1988–1998	1			3	1			5
1999–2009	5	1	3	4	3			13
2010–2021	9	3	1	5	3		1	22
Behavioral theories	10	7	4	8	6	2	3	40
1977–1987								1
1988–1998				1	1			2
1999–2009	5	2	3	1	2		1	13
2010–2021	5	5	1	6	3	2	2	24
Resource-based view	8		3	6	3	1	2	24
1977–1987								
1988–1998				2				2
1999–2009	4		2	2	1		1	10
2010–2021	4		1	2	2	1	1	12
Phenomenon-driven	9	3	4	9	5	1	5	32
1977–1987	1							1
1988–1998	1			1			4	6
1999–2009	6	1	2	6	3			14
2010–2021	1	2	2	2	2	1	1	11
3-stage theory	2	3	4	2	5	0		14
1977–1987								
1988–1998								
1999–2009	1		3	1	2			7
2010–2021	1	3	1	1	3			7

Notes: Some papers have either found multiple different shapes or have not made a clear statement about the identified shape of the relationship. Therefore, the amount of papers published per period does not match the total amount of identified shapes per period. POS LIN = The paper has found a positive linear relationship between M and P; NEG LIN = The paper has found a negative linear relationship between M and P; U = The paper has found a U-shaped relationship between M and P; INV U = The paper has found an inverted U-shaped relationship between M and P; S = The paper has found a S-shaped relationship between M and P; M = The paper has found a M-shaped relationship between M and P; NONE = The paper has found no relationship between M and P

Table 7.
Theories by shape of the M–P relationship

	Multinationality			Performance		
	Structural	Financial	Index-based	Financial	Operational	Overall effectiveness
Number of studies	43	74	26	110	11	4
Commonly used measures in %	Number of foreign subsidiaries 58%	FSTS 84%	Entropy measure 38%	ROA 57%	Survey questions 18%	Survey questions 100%

Table 8.
Overview of the performance and multinationality measurements used in the studies

note that, although researchers sometimes use the same moderators, the measurements are different. Given the sensitivity to context and measurement, it is no surprise that the findings are inconsistent. No patterns connected to the identified shapes of the M–P relationship are identified. Furthermore, there is no difference between papers that include

moderators and papers that do not include moderators. Again, positive linear and inverted U-shaped M–P relationships are marginally more common than the other shapes, although all shapes are represented. However, it is evident that adding moderators to the model became more popular during the past 12 years than it was before.

In the examination of the moderators, it is possible to identify and group them into three clusters based on shared features, which are shown in Appendix 4. The first cluster includes moderators that are commonly listed as *firm characteristics* (Kogan and Tian, 2012; Subrahmanyam and Titman, 2001; Zou and Stan, 1998). For example, the size of the firm (Fisch, 2012; Kirca *et al.*, 2012; Singla and George, 2013), the age of the firm (Singla and George, 2013) or business group affiliations (Gaur and Kumar, 2009; Kim *et al.*, 2004; Singla and George, 2013). The second cluster is associated with factors usually described as the institutional or the *home-country context* (Devinney *et al.*, 2010; Ghemawat, 2001; Scott, 2008). For example, home-country legal institutions (Li and Yue, 2008; Marano *et al.*, 2016), home-country political stability (Chao and Kumar, 2010; Tan and Chintakananda, 2016) and home-country governance (Chao and Kumar, 2010; Li and Yue, 2008). In the last cluster, the moderators are linked to *strategic decisions* a firm makes in diverse areas, and includes, for example, advertising intensity (Kirca *et al.*, 2016; Lu and Beamish, 2004), R&D intensity (Bae *et al.*, 2008; Berry and Kaul, 2016; Kirca *et al.*, 2016; Kotabe *et al.*, 2002; Lu and Beamish, 2004; Pattnaik and Elango, 2009) and entry mode decisions (Jain and Prakash, 2016). The three clusters have been compared for patterns, but again, no clear pattern emerges (see Table 9).

In sum, there is a broad variety of moderators that have a positive, negative or no effect on the M–P relationship. It is interesting to see that although many researchers use the same moderators, the results are different. Hence, the random use of moderating variables has made it difficult to identify consistent patterns in relation to the identified shape of the M–P relationship.

4. Concluding remarks

4.1 Discussion

This literature review and content analysis encompasses the 115 most relevant empirical studies publish over the past 44 years on the relationship between multinationality and performance at the firm level. Categorizing for different research settings, measurements, theories and moderators, we search for patterns that may explain the variety of incongruent findings in the extant literature. We test for patterns through cross-tabulation analysis and chi-square tests. Our findings challenge the prevalent belief in the international business literature that a direct and overall positive relationship exists for multinationality on performance.

First, we investigated different research settings, defined as different countries or regions, and found no clear linear or nonlinear pattern for identified shapes of the M–P relationship, neither from the content analysis nor from the cross-tabulation analysis. This includes single and multiple country settings. We conclude that there are no systematic patterns between the type of research setting and the nature of the M–P relationship.

Second, for sample characteristics we compared firm size and industry to the shape of the M–P relationship. We also considered whether the data represented a short-term (up to and including 6 years) or long-term (7–35 years) perspective. Many studies claim that firm-specific characteristics of small- and medium-sized enterprises (SMEs) impact their internationalization (Cavusgil and Knight, 2015; Chetty and Campbell-Hunt, 2004; Hilmersson and Johanson, 2020; Hilmersson *et al.*, 2022). Size is a boundary condition to firm internationalization as size often implies limited resources, including assets, finances and infrastructure (Knight and Kim, 2009). However, size also impacts firm governance, organization and decision-making (Verbeke and Ciravegna, 2018). Given this, it is somewhat surprising that we could not identify any patterns in the content analysis or the cross-

	POS LIN	NEG LIN	U	INV U	S	M	NONE	No. of published articles
With moderators	22	5	7	15	8	1	3	54
1977–1987								
1988–1998				1			1	2
1999–2009	7	2	4	3	3			15
2010–2021	15	3	3	11	5	1	2	37
Without moderators	16	7	8	14	11	2	7	61
1977–1987	1	1						3
1988–1998	2			2	1		3	8
1999–2009	6	1	4	6	4		1	21
2010–2021	7	5	4	6	6	2	3	29
Firm characteristics	8	4	3	5	2		2	22
1977–1987								
1988–1998								
1999–2009		1	1					2
2010–2021	8	3	2	5	2		2	20
Home country context	7			4	1	1	1	12
1977–1987								
1988–1998							1	1
1999–2009	2			1				2
2010–2021	5			3	1	1		9
Strategy	10	2	4	10	7			29
1977–1987								
1988–1998				1				1
1999–2009	5	1	3	2	3			11
2010–2021	5	1	1	7	4			17

Notes: Some papers have either found multiple different shapes or have not made a clear statement about the identified shape of the relationship. Therefore, the amount of papers published per period does not match the total amount of identified shapes per period. POS LIN = The paper has found a positive linear relationship between M and P; NEG LIN = The paper has found a negative linear relationship between M and P; U = The paper has found a U-shaped relationship between M and P; INV U = The paper has found an inverted U-shaped relationship between M and P; S = The paper has found a S-shaped relationship between M and P; M = The paper has found a M-shaped relationship between M and P; NONE = The paper has found no relationship between M and P

Table 9.
Moderators by shape of the M–P relationship

tabulation analysis. The limited number of articles in the size category may very well have contributed to not finding significant patterns in our data. Another explanation may be the diversity of definitions and measures of SMEs (Zahoor *et al.*, 2020), what Child *et al.* (2022) describe as inconsistencies in conceptualizing SMEs. We conclude that sample characteristics do not systematically influence the shape of the relationship between multinationality and performance. One common problem concerning samples, and thus results, lies in the ambiguity of definitions and measures of sample characteristics. That is, ambiguity in the sample creates ambiguity in the results (Sumpter *et al.*, 2019). Klein and Delery (2012, p. 58) explain it as, "(. . .) the most serious consequence of construct ambiguity is the lack of confidence that can be placed in the conclusions drawn from the extant literature."

Third, we scrutinized the underlying theories applied to explain the relationship between multinationality and performance. The several shapes of the relationship are explained by the authors utilizing many different and sometimes contradicting theories. Among others, the most popular explanations are derived from transaction cost theory, internalization

theory and the resource-based view of the firm. All theories share the common denominator that multinationality affects performance. Interestingly, almost all the theories have results across the spectrum of shapes of the relationship, leading us to conclude that there is no systematic relationship between the applied theory and the shape of the multinationality and performance relationship. This finding is in line with several researchers arguing that there is no systematic relationship between the two concepts (cf. Hennart, 2007; Rugman *et al.*, 2016). The results of the cross-tabulation analysis support this conclusion. However, one interesting observation is the lack of consideration of the individual manager playing a vital role in the decision-making process concerning internationalization. Bridging the existing macro-level theories with micro-level foundations would allow for a more detailed understanding of how multinationality and performance interact (cf. Cowen *et al.*, 2022).

Fourth, we examined the measurements used for multinationality and performance. We found that most of the studies applied financial measures for both concepts. Return on assets is most popular for performance and the ratio between foreign sales to total sales is the most popular for multinationality. The ease of access to this kind of financial data would explain these preferred measures, in spite of the possibility that they may not represent the most accurate depiction of the degree of multinationality or performance. Hult *et al.* (2008) advocate for incorporating operational performance and overall performance to compliment financial performance, thus depicting a more accurate and holistic view for measuring performance. We could not identify any statistically significant pattern between these types of measures and the shape of the relationship between multinationality and performance. One possible explanation is a lack of clarity when it comes to the definition and measurement of the constructs. There are limited discussions on what constitutes the constructs and how they are actually being measured (Klein and Delery, 2012; Suddaby, 2010). Promising progress has been made by Miller *et al.* (2016) who split multinationality into international intensity, international distance and international diversity to capture a more holistic picture of the different aspects that constitute multinationality. Giachetti and Spadafora (2017) suggest conformity in multinationality as a new measure that captures the extent to which a firm's multinationality resembles the multinationality of its peers at a particular point in time. This allows for more comparative analyses of individual firms in relation to their competitors.

Last, we investigated the effect of different moderators or no moderator on the shape of the relationship between multinationality and performance. No patterns emerged. We conclude that there are no systematic effects of moderators on the shape of the multinationality and performance relationship. Although investigating different moderators is crucial for the development of future research (Zahoor *et al.*, 2020), instead of enlarging the spectrum of applied moderators to the M–P relationship, it is imperative that researchers fundamentally question the nature and direction of the relationship between multinationality and performance.

4.2 Conclusions and suggestions for future research

We set out to explore reasons for inconsistent results in research on the M–P relationship. Given the absolute lack of any consistent results, our conclusion is that the relationship is so complex and contextually bound that it is neither possible nor fruitful to strive for a unifying theory. The content analysis shows that despite the variety of results there is consistency in the importance of the variables we have identified. The relationship between multinationality and performance can take many forms; however, it is an oversimplification of the relationship to examine it as simply two variables and a possible moderator.

The inconsistency may also be a function of the dynamics in the relationship. Internationalization is an evolving process, yet the vast majority of the published research relies on cross-sectional research designs. Findings at one time in the relationship will most

likely differ from findings at a different time, depending on where the relationship is in terms of the stage of the process. Frankly, the form of the relationship may simply be a function of the analytical choices made by the researchers. If the researchers are only testing linear relationships, then they may just see the linear part of what in actuality is a nonlinear relationship. This could even be a function of the available analytical tools and computing power. Future researchers should recognize that the relationship is a process taking different forms. There is no specific dominant form. The context specificity of the relationship makes general declarations difficult, if not impossible.

Over the past four decades, the M–P paradigm has been a major focus of practitioners and researchers (Elango and Sethi, 2007). Paradigms, to some degree, are immune to contradictory empirical evidence (cf. Håkanson and Kappen, 2017). By their nature, they are accepted as the established norm. Our findings concur with a growing body of evidence (cf. Hennart, 2011; Tallman and Pedersen, 2012; Verbeke and Brugman, 2009) that we are due for a paradigmatic shift (Kuhn and Hacking, 2012), which would allow the international business research field to develop in a fruitful new direction. Specifically, there is a small but growing literature arguing to turn the tables and investigate the performance–multinationality relationship (cf. Grant, 1987; Lu and Beamish, 2001, 2004; Morck and Yeung, 1991; Schmuck *et al.*, 2022). A handful empirical studies have empirically investigated either a dual or a reversed causality (Grant *et al.*, 1988; Hong Luan *et al.*, 2013; Jung and Bansal, 2009). Though promising, the outcomes from these studies require further investigation.

We suggest that future research focus more on the process of internationalization rather than on the outcome. Although the goal of internationalization is to achieve a particular outcome, multiple contextual factors need to be considered in the model. Depending on, for example, financial assets, strategic decisions or time since the founding of the company, firms reside in different stages of their internationalization processes. Taking cross-sectional observations fails to properly represent the process, distorting general conclusions. Moreover, a successful and sustainable internationalization process should be the focus of strategic decision making, rather than potential financial gains or losses. After all, as other literature reviews have shown, and as our findings show, after 44 years the international business research community still cannot agree on the effect of multinationality on firm performance. A theme for future consideration is to capture the time dimension in the internationalization process and the effect of time on performance. That is, the speed and timing of internationalization (Hilmersson *et al.*, 2017; Hult *et al.*, 2020).

We have endeavored to provide an overview and classification of the M–P moderators. Due to the large diversity in the moderators, we suggest researchers use more diligence in selecting and measuring moderators, multinationality and performance. In sum, we do not see a fruitful future for research on the M–P relationship, as long as researchers continue to rely on the dominant paradigm and other underlying assumptions. We advocate a critical reevaluation of the current oversimplifications of the M–P relationship and suggest future research to critically assess the choices of theories, methods, models and statistical analyses.

Notes

1. Previous literature reviews have dedicated a lot of attention to the different shapes of the M–P relationship. In particular, Cardinal *et al.* (2011) and Nguyen and Kim (2020) provide a detailed description and analysis of the different shapes of the M–P relationship found in previous research.
2. The conceptual papers are Contractor (2012), Hennart (2007), Hitt *et al.* (1994), Richter *et al.* (2017), Verbeke and Brugman (2009), Verbeke *et al.* (2009) and Yildiz (2013).

3. The literature reviews are Cardinal *et al.* (2011), Glaum and Oesterle (2007), Hennart (2011), Hult *et al.* (2008), Jiang *et al.* (2020), Li (2007), Nguyen (2017), Nguyen and Kim (2020), Tallman and Pedersen (2012) and Verbeke and Forootan (2012).
4. The meta-analyses are Bausch and Krist (2007), Geleilate *et al.* (2016), Kirca *et al.* (2011), Kirca *et al.* (2012), Marano *et al.* (2016), Palich *et al.* (2000a) and Yang and Driffield (2012).
5. Elango (2006) identified a positive linear relationship for service firms, and an inverted U-shaped relationship for manufacturing firms.
6. Elango and Sethi (2007) identified a positive linear relationship for firms operating in countries with relatively small economies and which have extensive trade in their economy, and an inverted U-shaped relationship for firms in countries with larger economies which have relatively moderate trade in their economy.
7. Banalieva and Sarathy (2011) identified a positive linear relationship for non-electronic emerging market multinational firms, and an inverted U-shaped relationship for electronic emerging market multinational firms.
8. Benito-Osorio *et al.* (2016) identified a negative linear relationship for small and medium-sized firms, an U-shaped relationship for medium-sized firms and an S-shaped relationship for large firms. Moreover, they found an S-shaped relationship for all firms included in their sample.
9. Sun *et al.* (2019) identified an U-shaped relationship for firms with low marketing capabilities and an inverted U-shaped relationship for firms with high marketing capabilities.
10. Shin *et al.* (2017) identified an U-shaped relationship for capital-intensive service firms, an inverted U-shaped relationship for knowledge-intensive service firms and an inverted S-shaped relationship for the whole sample of service firms.
11. The statistical analysis used by Dikova and Veselova (2021) did not allow for making conclusions on the relationship between multinationality and firm performance.

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Appendix 1

	hits	included	(%)
General Management, ethics and social responsibility			
Academy of Management Journal (4*)	32	5	3.60
Academy of Management Review (4*)	4	0	0
Administrative Science Quarterly (4*)	3	0	0
Journal of Management (4*)	14	2	1.44
British Journal of Management (4)	7	2	1.44
Business Ethics Quarterly (4)	1	0	0
Journal of Management Studies (4)	14	0	0
Academy of Management Perspectives (3)	3	0	0
Business and Society (3)	4	0	0
European Management Review (3)	2	0	0
International Journal of Management Reviews (3)	3	1	0.72
Journal of Business Ethics (3)	13	0	0
Journal of Business Research (3)	51	6	4.32
Business Horizons (2)	1	0	0
Canadian Journal of Administrative Sciences (2)	4	0	0
European Business Review (2)	3	1	0.72
European Management Journal (2)	10	2	1.44
International Studies of Management and Organization (2)	3	1	0.72
Journal of General Management (2)	2	0	0
Journal of Intellectual Capital (2)	2	0	0
Management Decision (2)	15	2	1.44
Scandinavian Journal of Management (2)	1	0	0
Subtotal	*192*	*22*	*15.83*
International business and area studies			
Journal of International Business Studies (4*)	79	11	7.92
Journal of World Business (4)	44	10	7.20
Asia Pacific Journal of Management (3)	9	3	2.16
International Business Review (3)	90	16	11.51
Journal of Common Market Studies (3)	2	0	0
Journal of International Management (3)	30	8	5.76
Management and Organization Review (3)	5	3	2.16
Management International Review (3)	62	24	17.27
Asian Business and Management (2)	1	1	0.72
Asia Pacific Business Review (2)	2	0	0
Critical Perspectives on International Business (2)	4	1	0.72
Multinational Business Review (2)	24	15	10.79
Thunderbird International Business Review (2)	15	4	2.88
Subtotal	*367*	*96*	*69.06*
Strategy			
Strategic Management Journal (4*)	62	9	6.47
Global Strategy Journal (3)	18	11	7.92
Long Range Planning (3)	7	0	0
Business Strategy and the Environment (2)	3	0	0
Journal of Economics and Management Strategy (2)	1	0	0
Strategic Change (2)	2	0	0

(*continued*)

Table A1. Overview of initial hits and included articles per journal

	hits	included	(%)
Technology Analysis and Strategic Management (2)	2	0	0
Subtotal	*95*	*20*	*14.39*
Total	654	139	100

Notes: Latest ranking according to the Academic Journal Guide 2015 in brackets behind the journal name. The following journals had no initial hits and are therefore excluded from this table: General management, ethics and social responsibility: *California Management Review* (3), *Harvard Business Review* (3), *Journal of Management Inquiry* (3), *MIT Sloan Management Review* (3), *Business Ethics: A European Review* (2), *Competition and Change* (2), *Journal of Revenue and Pricing Management* (2); International business and area studies: *African Affairs* (3), *China Quarterly* (2), *Emerging Markets Review* (2), *Eurasian Geography and Economics* (2), *Europe-Asia Studies* (2), *Journal of Latin American Studies* (2), *Journal of Modern African Studies* (2), *Journal of World Trade* (2), *Third World Quarterly* (2), *Transnational Corporations* (2); Strategy: *Strategic Organization* (3), *Advances in Strategic Management* (2)

Table A1.

Appendix 2

Search protocol and creation of database, with selection and exclusion criteria:

(1) Full search of articles in the databases Web of Science and Business Source Premier with the following restrictions:
   - Time period 1977-01-01 to 2021-12-31
   - Peer-reviewed journal articles only
   - Journals that are ranked 2 or higher in the Chartered Association of Business Schools Academic Journal Guide 2015 ranking (for a detailed list, please refer to Appendix A)
   - Keyword search in title field of a record, with the search string [(multinational* OR international*) AND performance]. Initial search results: $n = 491$ articles
   - Keyword search in title field of a record, with the search string [((region* OR geographic*) diversification) AND performance]. Initial search results (after deleting duplicates): $n = 152$ articles
   - Keyword search in title field of a record, with the search string [(transnational* OR "born global*") AND performance]. Initial search results (after deleting duplicates): $n = 11$
   - Total of initial search results: $n = 654$ articles

(2) Downloading the bibliographic information (title, year, author, abstract, journal) of the 654 articles into the EndNote reference manager software and exporting into an excel file to create a database

(3) Manual reading and checking of all articles included in the initial database against the following exclusion criteria:
   - Studies using one of the key concepts multinationality or firm performance as a moderator or control variable (16 articles)
   - Studies not measuring corporate performance
   - Studies measuring different kinds of performance (e.g. corporate social performance, or environmental performance) (110 articles)
   - Studies where the unit of analysis is not on a firm level (e.g. subsidiary performance) (36 articles)
   - Studies measuring different kinds of diversification (e.g. product diversification, or board diversification) (92 articles)
   - Studies not using both key concepts multinationality and firm performance as key variables (261 articles).
   - Total of articles that fulfilled the selection criteria: $n = 139$ articles

(4) Selection of empirical articles, due to the focus of the literature review
   - Exclusion of conceptual papers (7 articles)
   - Exclusion of literature reviews (10 articles)
   - Exclusion of meta-analyses (7 articles)
   - Final sample: $n = 115$ articles

Table A2.
Empirical studies on the relationship between multinationality and firm performance, their dependent and independent variables and the found relationship

#	Study	Theoretical perspective	Dependent variable	Independent variable	Moderators included	Relation-ship
1	Grant (1987)	Phenomenon driven	ROA, ROE, ROS	FSTS	no	Positive linear
2	Kim *et al.* (1989)	Economic theory	OPM, ROA	Entropy measure for DOI	no	Positive linear
3	Riahi-Belkaoui (1996)	Phenomenon driven	ROA	FSTS	no	Positive linear
4	Ramírez-Alesón and Espitia-Escuer (2001)	Resource-based view	Tobin's Q, ROOA	FORSUB	no	Positive linear
5	Kotabe *et al.* (2002)	Resource-based view	ROA, OPSALINV	FITI	yes	Positive linear
6	Andersen and Foss (2005)	Unspecified	Survey-based measure for performance	FSTS	yes	Positive linear
7	Tongli *et al.* (2005)	Phenomenon driven	ROA, Tobin's Q, share price	Entropy measure for DOI	no	Positive linear
8	Hsu (2006)	Economic and behavioral theories	ROE	FSTS	yes	Positive linear
9	Chari *et al.* (2007)	Internalization theory	Tobin's Q	FSTS, FORSUB	yes	Positive linear
10	Li and Yue (2008)	Resource-based view	ROA, ROS	FSTS	yes	Positive linear
11	Pangarkar (2008)	Internationalization process and location theory	ROA, ROS	FSTS	no	Positive linear
12	Venzin *et al.* (2008)	Phenomenon driven	ROA, ROE	FSTS, FATA, FETE	no	Positive linear
13	Väätänen *et al.* (2009)	Foreign direct investment and Uppsala model	Sales growth, NPM, labor productivity	International price exposure	no	Positive linear
14	Lin *et al.* (2011)	Behavioural theory of the firm	ROA	FSTS, FATA, FORSUB	yes	Positive linear
15	Andersen (2012)	Eclectic paradigm	Downside risk, upside potential	FORSUB	no	Positive linear
16	Chao *et al.* (2012)	Institutional theory	ROA	FORSUB	yes	Positive linear
17	Tsao and Chen (2012)	Agency theory	ROA, Tobin's Q	FSTS, FATA, FORSUB, composite measure for DOI	yes	Positive linear
18	Hsu *et al.* (2013)	Upper echelons theory and information processing theory	ROA	FSTS, FATA, composite measure for DOI	yes	Positive linear
19	Tsao and Lien (2013)	Agency theory	ROA, Tobin's Q	FSTS, FATA, FORSUB, composite measure for DOI	yes	Positive linear
20	Yang *et al.* (2013)	Foreign direct investment	ROS	FORSUB	no	Positive linear

(*continued*)

Table A2.

#	Study	Theoretical perspective	Dependent variable	Independent variable	Moderators included	Relation-ship
21	O'Brien *et al.* (2014)	Resource-based view, agency theory and transaction cost theory	Tobin's Q	Entropy measure for DOI	yes	Positive linear
22	Tan and Chintakananda (2016)	Resource-based view and transaction cost theory	ROA	Entropy measure for DOI	yes	Positive linear
23	Upadhyayula *et al.* (2017)	Phenomenon driven	Total sales per total employees	FORSUB	yes	Positive linear
24	Buckley and Tian (2017a)	Internalization theory	ROA	FSTS	no	Positive linear
25	Chang and Chung (2017)	Unspecified	ROA	FSTS	no	Positive linear
26	Dittfeld (2017)	Unspecified	ROA, Tobin's Q	FSTS, FATA	yes	Positive linear
27	Giachetti and Spadafora (2017)	Rivalry-based theories of imitation and information-based theories of imitation	ROA	FSTS, FORSUB	no	Positive linear
28	Batsakis *et al.* (2018)	Resource dependence theory	ROA	FSTS	yes	Positive linear
29	Cuervo-Cazurra *et al.* (2018)	Organizational learning theory	EBITOA	Dummy variable	yes	Positive linear
30	Fuad and Akbar (2018)	Resource-based view	ROE	FSTS	no	Positive linear
31	Cos *et al.* (2019)	Unspecified	FSTS	Entropy measure	no	Positive linear
32	Tashman *et al.* (2019)	Resource-based view	ROS	FSTS	yes	Positive linear
33	Ioulianou *et al.* (2021)	Real options theory	A set of asymmetric performance measures	FORSUB	yes	Positive linear
34	Elango (2006)[5]	Phenomenon driven	GPM	FSTS	yes	Positive linear, inverted U
35	Elango and Sethi (2007)[6]	Phenomenon driven	GPM, OPM	FSTS	no	Positive linear, inverted U
36	Banalieva and Sarathy (2011)[7]	Transaction cost theory, new trade theory and three-stage theory	ROA	FSTS	yes	Positive linear, inverted U

(*continued*)

Table A2.

#	Study	Theoretical perspective	Dependent variable	Independent variable	Moderators included	Relation-ship
37	Zahra *et al.* (2000)	Foreign direct investment and organizational learning	ROE ROE	FSTS FORSUB	yes	Positive linear, Negative linear
38	Lu *et al.* (2015)	Contingency theory	Survey-based measure for firm growth Survey-based measure for firm profitability (ROI)	FDI FDI	yes	Positive linear, Negative linear
39	Michel and Shaked (1986)	Portfolio theory	Risk-adjusted returns	FSTS	no	Negative linear
40	Kim *et al.* (2004)	Power-dependence perspective	ROA	FORSUB, number of regions in which the firm has subsidiaries	yes	Negative linear
41	Banalieva and Santoro (2009)	Unspecified	ROA	FSTS	no	Negative linear
42	Li *et al.* (2011)	Internalization theory and eclectic paradigm	ROA	Geographic distribution of foreign subsidiaries	yes	Negative linear
43	Chen and Tan (2012)	Institutional theory, Uppsala model, and three-stage theory	Tobin's Q	FSTS	no	Negative linear
44	Singla and George (2013)	Foreign direct investment and three-stage theory	ROA	FSTS, FATA, FOTO	yes	Negative linear
45	Powell (2014)	Internalization theory and transaction cost theory	Profits-per-lawyer, revenue-per-lawyer	FOTO	no	Negative linear
46	Ral-Trebacz *et al.* (2018)	Unspecified	Tobin's Q	FORSUB	no	Negative linear
47	Wei and Nguyen (2020)	New internalization theory	ROA, ROE	FSTS	no	Negative linear
48	Benito-Osorio *et al.* (2016)[8]	Three-stage theory	ROA	FSTS	no	Negative linear, U-shaped, S-shaped
49	Lu and Beamish (2001)	Foreign direct investment	ROA, ROS	FORSUB	yes	U-shaped

(*continued*)

Table A2.

#	Study	Theoretical perspective	Dependent variable	Independent variable	Moderators included	Relation-ship
50	Capar and Kotabe (2003)	Resource-based view, internalization theory, and transaction cost theory	ROS	FSTS	no	U-shaped
51	Ruigrok and Wagner (2003)	Locational choice theory, organizational evolution theory and global knowledge development theory	ROA	FSTS	no	U-shaped
52	Thomas (2006)	Resource-based view, internalization theory, three-stage theory and organizational learning	ROS	FSTS	yes	U-shaped
53	Contractor *et al.* (2007)	Three-stage theory	ROA, ROE	FSTS	no	U-shaped
54	Gaur and Kumar (2009)	Three-stage theory	ROS	FSTS	yes	U-shaped
55	Berry and Kaul (2016)	Phenomenon driven	ROA	FORSUB	yes	U-shaped
56	Garrido-Prada *et al.* (2019)	Resource-based view and transaction cost theory	EBITOA	Entropy measure	no	U-shaped
57	Pangarkar and Yuan (2021)	Organizational learning	ROA	FORSUB	yes	U-shaped
58	Hsu and Boggs (2003)	Unspecified	TAT TAT, ROA, ROE	FSTS FORSUB	no	U-shaped, Inverted U-shaped
59	Sun *et al.* (2019)[9]	Internationalization theory	ROA	FSTS, FORSUB	yes	U-shaped, inverted U-shaped
60	Chang and Wang (2007)	Transaction cost theory	Tobin's Q	Entropy measure	yes	U-shaped, inverted U-shaped, S-shaped
61	Shin *et al.* (2017)[10]	Unspecified	ROA	FORSUB	no	U-shaped, inverted U-shaped, S-shaped

(*continued*)

Table A2.

#	Study	Theoretical perspective	Dependent variable	Independent variable	Moderators included	Relation-ship
62	Miller *et al.* (2016)	Phenomenon driven	ROA ROA	FSTS FORSUB	no	U-shaped, S-shaped
63	Geringer *et al.* (1989)	Foreign direct investment	ROS	FSTS	no	Inverted U-shaped
64	Tallman and Li (1996)	Resource-based view and transaction cost theory	ROS	FSTS	no	Inverted U-shaped
65	Hitt *et al.* (1997)	Resource-based view, foreign direct investment, transaction cost theory, and organizational learning	ROA	Entropy measure for DOI	yes	Inverted U-shaped
66	Gomes and Ramaswamy (1999)	Foreign direct investment	ROA, OPSAL	FSTS, FATA, FORSUB	no	Inverted U-shaped
67	Brock *et al.* (2006)	Phenomenon driven	ROS, PEP	FSTS, FORSUB	no	Inverted U-shaped
68	Qian *et al.* (2008)	Resource-based view and transaction cost theory	ROA, ROS	FSTS, FATA, FETE	no	Inverted U-shaped
69	Garbe and Richter (2009)	Foreign direct investment, transaction cost theory, three-stage theory, organizational learning, and Uppsala model	ROS	FATA, FETE, Berry index	no	Inverted U-shaped
70	Pattnaik and Elango (2009)	Resource-based view	ROS	FSTS	yes	Inverted U-shaped
71	Chao and Kumar (2010)	Institutional theory	ROA	FORSUB	yes	Inverted U-shaped
72	Qian *et al.* (2010)	Phenomenon driven	ROA	Entropy measure for DOI	no	Inverted U-shaped
73	Singh *et al.* (2010)	Upper echelons literature	ROA	FSTS	yes	Inverted U-shaped
74	Elango (2012)	Contingency theory	OPM	FSTS	yes	Inverted U-shaped
75	Li *et al.* (2012)	Resource-based view and transaction cost theory	ROA, ROS	FSTS, Entropy measure for DOI	no	Inverted U-shaped
76	Chen *et al.* (2014)	phenomenon driven	ROA	FSTS	yes	Inverted U-shaped

(*continued*)

Table A2.

#	Study	Theoretical perspective	Dependent variable	Independent variable	Moderators included	Relation-ship
77	de Jong and van Houten (2014)	Resource-based view and transaction cost theory	EBITOA	Composite measure for DOI	yes	Inverted U-shaped
78	Chen *et al.* (2015)	Institutional theory	ROE	FSTS	yes	Inverted U-shaped
79	Jain and Prakash (2016)	Eclectic paradigm	ROS	FORSUB	yes	Inverted U-shaped
80	Kirca *et al.* (2016)	Internalization theory	ROA, ROE	FATA	yes	Inverted U-shaped
81	Gu *et al.* (2018)	Foreign direct investment	ROA	FORSUB	yes	Inverted U-shaped
82	Freixanet and Rialp (2022)	Organizational learning	ROS	FSTS	no	Inverted U-shaped
83	Lee and Hemmert (2021)	Knowledge-based view	ROA	FSTS	no	Inverted U-shaped
84	Almodóvar and Rugman (2014)	Organizational learning	ROS	FSTS	no	Inverted U-shaped, M-shaped
85	Riahi-Belkaoui (1998)	Foreign direct investment, internalization theory, and eclectic paradigm	ROA	FRTR	no	S-shaped
86	Contractor *et al.* (2003)	Three-stage theory	ROA, ROS	FSTS, FETE, FOTO	no	S-shaped
87	Lu and Beamish (2004)	Phenomenon driven	ROA Tobin's Q	FORSUB	yes	S-shaped
88	Thomas and Eden (2004)	Foreign direct investment and international trade theory	ROA, ROE, excess market value, average market value	FSTS, FATA, FORSUB	no	S-shaped
89	Ruigrok *et al.* (2007)	Mid-range contingency theory	ROA	FSTS	no	S-shaped
90	Bae *et al.* (2008)	Resource-based view, internalization theory, and eclectic paradigm	ROA, ROS, ROE	FSTS	yes	S-shaped
91	Kumar and Singh (2008)	Uppsala model	ROA, ROE	FSTS	no	S-shaped

(*continued*)

Table A2.

#	Study	Theoretical perspective	Dependent variable	Independent variable	Moderators included	Relation-ship
92	Bobillo *et al.* (2010)	Resource-based view and social capital theory	ROA	FSTS	no	S-shaped
93	Rugman and Oh (2010)	Internalization theory	Tobin's Q	RSTS	no	S-shaped
94	Fisch (2012)	Foreign direct investment, transaction cost theory and theory of information costs	ROE	Gini coefficient for DOI	yes	S-shaped
95	Oh and Contractor (2012)	Resource-based view and transaction cost theory	Firm market value	FSTS	yes	S-shaped
96	Outreville (2012)	Eclectic paradigm and Uppsala model	Combined ratio for performance	GSI	no	S-shaped
97	Xiao *et al.* (2013)	Phenomenon driven	ROA, ROS	ESTS	yes	S-shaped
98	Oh *et al.* (2015)	Three-stage theory and regional multinational enterprise theory	ROS	Entropy measure for DOI	yes	S-shaped
99	Abdi and Aulakh (2018)	Three-stage theory	ROA	FSTS	yes	S-shaped
100	Almodóvar (2012)	Resource-based view and Uppsala model	ROS	Export intensity	no	M-shaped
101	Lee (2013)	Phenomenon driven	ROE	FSTS	yes	M-shaped
102	Haar (1989)	Phenomenon driven	Net profits to assets	FSTS	no	No relationship
103	Sambharya (1995)	Phenomenon driven	ROA, ROS, ROE	FSTS, FATA, FORSUB	no	No relationship
104	Peterson *et al.* (1996)	Phenomenon driven	ROA, ROE	Survey-based measure for DOI	no	No relationship
105	Wan (1998)	Phenomenon driven	ROE	Entropy measure for DOI	yes	No relationship
106	Brock and Yaffe (2008)	Resource-based view	PEP	FORSUB, percentage of lawyers abroad	no	No relationship
107	Muñoz-Bullón and Sánchez-Bueno (2012)	Phenomenon driven	ROA	Entropy measure for DOI	yes	No relationship
108	Rugman *et al.* (2016)	New internalization theory	ROA	FSTS	no	No relationship
109	Borda *et al.* (2017)	Resource-based view and transaction cost theory	ROA	FSTS	yes	No relationship
110	Buckley and Tian (2017b)	Internalization theory	ROA	FSTS, FATA, FETE	no	No relationship

(*continued*)

Appendix 4

#	Study	Theoretical perspective	Dependent variable	Independent variable	Moderators included	Relation-ship
111	Pisani *et al.* (2020)	Unspecified	ROA	FORSUB	no	No relationship
112	Rugman (1983)	Internalization theory	ROE	FSTS	no	Not stated
113	Palich *et al.* (2000b)	International impediments theory	ROA, ROS	FORSUB	no	Not stated
114	Wiersema and Bowen (2011)	Resource-based view, foreign direct investment, three-stage theory and organizational learning	ESTS	FORSUB	no	Not stated
115	Dikova and Veselova (2021)[11]	Contingency theory	Survey-based measure for organizational performance	FSTS, FRTR, survey-based measure for internationalization scope and scale	no	Not applicable

Notes: ATNITA = after-tax net income to total assets; EBITOA = earnings before interest and taxes divided by total assets; ESTS = export sales to total sales; FATA = ratio of foreign to total assets; FETE = ratio of foreign to total employees; FITI = ratio of foreign to total income; FOTO = ratio of foreign to total offices; FORSUB = number of foreign subsidiaries; FRTR = foreign to total revenues; FSTS = ratio of foreign to total sales; GPM = gross profit margin; GSI = Geographic Spread Index; NPM = net profit margin; OCTS = operating costs to total sales; OPM = operating profit margin; OPSAL = ratio of operating costs to sales; OPSALINV = ratio of sales to operating costs; PEP = profits per equity partner; ROA = return on Assets, ROE = return on equity; RONA = return on net assets; ROOA = return on operating assets; ROS = return on sales; RSTS = regional sales to total sales; TAT = total asset turnover; Tobin's Q = sum of the market value of equity and the book value of debt divided by the book value of assets

Table A2.

Table A3.
Moderators and their effect on the M–P relationship

#	Moderator	Measurement	Effect	Findings significant	Study
Firm characteristics N = 32					
1	attainment discrepancy	difference between firm aspirations and the firm's actual performance	positive	yes	Lin *et al.* (2011)
2	bank debt	sum of all bank loans divided by the MVF	negative	yes	O'Brien *et al.* (2014)
3	bond debt	sum of all bonds and long-term notes divided by the MVF	negative	yes	O'Brien *et al.* (2014)
4	firm age	natural logarithm of the number of years of operation since the firm's inception	positive	yes	Singla and George (2013)
5	firm size	total number of employees, logarithmized	positive	yes	Fisch (2012)
6	firm size	natural logarithm of total sales	positive	no	Singla and George (2013)
7	firm type	dummy variable	negative	yes	Fisch (2012)
8	high-discretion slack	current assets divided by current liabilities	positive	yes	Lin *et al.* (2011)
9	intangible assets in the field of R&D	ratio of expenses for R&D to total sales	negative	yes	Dittfeld (2017)
10	intangible assets in the field of marketing	ratio of selling, general, and administrative expenses to total sales	positive	yes	Dittfeld (2017)
11	international asset dispersion	total number of countries in which a firm operates subsidiaries	negative	yes	Kirca *et al.* (2016)
12	international expansion	firm's relative increase in the spread of international operations (inverted Gini coefficient measure)	positive	yes	Fisch (2012)
13	leverage	total debt (bank loans plus bond debt) divided by the total MVF	negative	yes	O'Brien *et al.* (2014)
14	low-discretion slack	equity to debt ratio	positive	yes	Lin *et al.* (2011)
15	marketing advantages	selling, general, and administrative expenses (SGA) stock	positive	yes	Li *et al.* (2011)
16	marketing capabilities	dummy variable	positive	yes	Sun *et al.* (2019)
17	technological advantages	patent count and R&D stock	positive	yes	Li *et al.* (2011)
18	primary industry	dummy variable	positive	yes	Borda *et al.* (2017)

(*continued*)

Table A3.

#	Moderator	Measurement	Effect	Findings significant	Study
19	industry life cycle	total sales growth in each industry to identify stage in the industry life cycle	positive	yes	Pangarkar and Yuan (2021)
	Business group affiliation				
20	business group affiliation	dummy variable	negative	yes	Gaur and Kumar (2009)
	business group affiliation	dummy variable	positive	yes	Singla and George (2013), Batsakis *et al.* (2018)
21	business group affiliation (keiretsu membership)	dummy variable	positive	yes	Kim *et al.* (2004)
22	business group diversification	number of industries in which the business group affiliates participate	positive	yes	Borda *et al.* (2017)
	Corporate governance				
23	CEO age	number of years from the date of birth	negative	yes	Hsu *et al.* (2013)
24	CEO duality	dummy variable	negative	yes	Hsu *et al.* (2013)
25	CEO educational level	categorical variable	positive	yes	Hsu *et al.* (2013)
26	CEO international experience	dummy variable	positive	yes	Hsu *et al.* (2013)
27	CEO tenure	number of years for which the firm's CEO has been in that position	negative	no	Hsu *et al.* (2013)
28	entrenchment effect	ratio of voting rights to cash flow rights	negative	yes	Tsao and Chen (2012)
29	family dominance in the TMT	dummy variable	negative	yes	Lu *et al.* (2015)
30	family firm	dummy variable	none	–	Muñoz-Bullón and Sánchez-Bueno (2012)
	family firm	dummy variable	positive	yes	Tsao and Lien (2013)
31	family ownership	percentage of common stock owned by family members	positive	yes	Tsao and Lien (2013)
32	firm's governance structure	Dummy variables	positive	yes	Xiao *et al.* (2013)
33	foreign ownership	share of foreign-owned paid-in capital over the total paid-in capital of the firm	Positive	Yes	Chen *et al.* (2015)
34	incentive alignment effect	cash flow rights level of the largest ultimate owner	positive	yes	Tsao and Chen (2012)
35	ownership structure	dummy variable	positive	yes	Gu *et al.* (2018)
36	state ownership	share of state-owned paid-in capital over the total paid-in capital of the firm	none	–	Chen *et al.* (2015)

(*continued*)

Table A3.

#	Moderator	Measurement	Effect	Findings significant	Study
37	TMT Experience	average number of years for which the TMT members have worked in a particular industry	positive	yes	Singh *et al.* (2010)
Home-country context N = 15					
38	cluster presence	dummy variable	none	–	Upadhyayula *et al.* (2017)
39	degree of centralized government control	scale ranging from 1 to 10	positive	yes	Xiao *et al.* (2013)
40	degree of home-region orientation	magnitude of foreign export sales realized in Asia-Pacific	positive	yes	Lee (2013)
41	difference in growth rate	[(Global industry growth rate)] – [(Home country industry growth rate)]	negative	yes	Elango (2012)
42	home country governance	mean average score of 6 governance items	positive	yes	Elango (2006)
43	home country legal institutions	dummy variables	positive	yes	Li and Yue (2008)
44	home country political stability	Index	positive	yes	Tan and Chintakananda (2016)
45	home country political risk	Index	positive	yes	Cuervo-Cazurra *et al.* (2018)
46	home country corruption	Index	positive	yes	Cuervo-Cazurra *et al.* (2018)
47	home country regulatory effectiveness	combination of four indices	positive	yes	Tan and Chintakananda (2016)
48	normative institutional distance	Index	positive	yes	Chao and Kumar (2010)
	normative institutional distance	Index	positive	yes	Chao *et al.* (2012)
49	regulative institutional distance	Index	negative	yes	Chao and Kumar (2010)
	regulative institutional distance	Index	negative	yes	Chao *et al.* (2012))
50	industrial diversification	entropy measure	none	–	Wan (1998)
51	quality certification	dummy variable	positive	yes	Upadhyayula *et al.* (2017)
52	trade liberalization		negative	yes	Banalieva and Sarathy (2011)

(*continued*)

Table A3.

#	Moderator	Measurement	Effect	Findings significant	Study
		seven related variables, extracted from databases			
Strategy N = 36					
53	acquired shares	the percentage share of total equity of the target company that the acquirer has proposed to acquire	negative	yes	Batsakis *et al.* (2018)
54	advertising intensity	firm's proprietary marketing assets	positive	yes	Kirca *et al.* (2016)
55	advertising intensity	advertising expenditure divided by sales	positive	yes	Lu and Beamish (2004)
56	board activeness	ordinal variable indicating the frequency of board meetings each year	positive	yes	Lu *et al.* (2015)
57	board independence	number of independent directors	positive	yes	Lu *et al.* (2015)
58	cost efficiency	ratio of total sales divided by cost of sales	negative	yes	Pattnaik and Elango (2009)
59	duration of internationalization	number of years since the firm conducted its first cross-border sales	positive	yes	Abdi and Aulakh (2018)
60	entry mode	dummy variable	none	–	Jain and Prakash (2016)
61	export intensity	percent of parent firm sales that were derived from export revenues	negative	yes	Lu and Beamish (2001)
62	firm-specific assets	the ratio of a studio's budget for blockbuster productions to its total production budget in a year	positive	yes	Tashman *et al.* (2019)
63	internationalization motives	dummy variable	positive	yes	Jain and Prakash (2016)
64	intrafirm trade	1 − [absolute value of (exports − imports)/(exports + imports)	positive	yes	Elango (2012)
65	investments	quotient between capital expenditures and total sales	negative	no	Dittfeld (2017)
66	knowledge integration	7 items in the survey using a 5-point Likert scale	positive	yes	Zahra *et al.* (2000)
67	marketing intensity		positive	no	Kotabe *et al.* (2002)

(*continued*)

Table A3.

#	Moderator	Measurement	Effect	Findings significant	Study
		annual advertising expenditure divided by sales			
	marketing intensity	marketing expenditures divided by sales	negative	yes	Pattnaik and Elango (2009)
68	marketing resources	logarithm of (advertisement cost to number of employees)	positive	yes	Chen *et al.* (2014)
69	R&D intensity	parent firm's R&D spending as a percentage of its sales	none	–	Berry and Kaul (2016)
70	R&D intensity	firms' unique technological assets	positive	yes	Kirca *et al.* (2016)
71	R&D intensity	R&D expenditure divided by sales	negative	no	Kotabe *et al.* (2002)
	R&D intensity	R&D expenditures divided by sales	positive	yes	Lu and Beamish (2004), Bae *et al.* (2008)
72	real options awareness	dummy variable	positive	yes	Ioulianou *et al.* (2021)
73	region-specific marketization	marketization index for Chinese regions developed by Fan *et al.* (2011)	positive	yes	Chen *et al.* (2015)
74	research intensity	research expenditures divided by sales	none	–	Pattnaik and Elango (2009)
75	scale of operations	natural logarithm of the firm's annual sales	positive	yes	Abdi and Aulakh (2018)
76	technological resources	ratio of R&D cost to annual sales revenue	positive	yes	Chen *et al.* (2014)
	Location strategies				
77	geographic distance	mean distance between a firm's HQ and its foreign subsidiaries	negative	yes	Fisch (2012)
78	geographic distance	location data, where each firm reports up to three country export destinations	negative	no	Thomas (2006)
79	location choice	dummy variable	positive	yes	Gu *et al.* (2018)
	Product diversification				
80	overall effect of product diversification (related and unrelated)	not specified	positive	no	Chang and Wang (2007)
81	product diversification	entropy measure	positive	yes	Hitt *et al.* (1997), Hsu (2006)
82	product diversification	Herfindahl type index	positive	no	Oh and Contractor (2012)
83	product diversification	entropy index	negative	yes	Oh *et al.* (2015)

(*continued*)

Table A3.

#	Moderator	Measurement	Effect	Findings significant	Study
84	related product diversification	entropy index; weighted average of the firm's degree of diversification within related business segments	positive	yes	Chang and Wang (2007)
85	related product diversification	dummy variable	positive	yes	Chen *et al.* (2014)
86	unrelated product diversification	entropy index; weighted average of the firm's degree of diversification within unrelated business segments	negative	yes	Chang and Wang (2007)
87	unrelated product diversification	dummy variable	negative	yes	Chen *et al.* (2014)
	Cultural diversity				
88	cultural diversity	cultural distance index	negative	yes	de Jong and van Houten (2014), Fisch (2012)
89	computer-mediated communication	5-point Likert scale	positive	yes	Andersen and Foss (2005)
90	IT investment	IT investment made in 1997 divided by number of employees	positive	yes	Chari *et al.* (2007)

Notes: The coding of the effect (positive, negative or none) is based on the claims made by the authors in the respective paper, even though they sometimes reported insignificant results

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