PERFORMANCE OF MULTINATIONAL CORPORATIONS (MNCs): THE INFLUENCE OF RESEARCH AND DEVELOPMENT (R&D) CAPABILITY AND MARKETING CAPABILITY (MC)

Master degree in International Business

Eidyx Marlene Castillo Martínez

Leiria, March of 2021

escola superior de tecnologia e gestão
instituto politécnico de leiria

PERFORMANCE OF MULTINATIONAL CORPORATION (MNCs): THE INFLUENCE OF RESEARCH AND DEVELOPMENT (R&D) CAPABILITY AND MARKETING CAPABILITY (MC)

Master degree in International Business

Eidyx Marlene Castillo Martínez

Dissertation Report under the supervision of Professor Ana Lisboa.

Leiria, March of 2021

Originality and Copyright

This dissertation/project report is original, made only for this purpose, and all authors whose studies and publications were used to complete it are duly acknowledged.

Dedication

I dedicate my dissertation work to my family. A particular feeling of gratitude to my loving parents, Julia de Castillo and Enrique Castillo for supporting and encouraging me to believe in myself, whose inspirational and motivational phrases were always there, who taught me to trust and believe in the rewards of hard work.

With love,

Eidyx

Acknowledgments

I would like to express my honest gratitude to my supervisor professor Ana Catarina Cadima Lisboa, for her enthusiasm on this dissertation, for her constant support, encouragement, guidance and patience, all her thoughtful observations and recommendations made this an inspirational experience for me, all the overall insights were essential in motivating me to think out of the box, from several perspectives to create an objective and comprehensive analysis.

I also thank professor João Neves de Carvalho Santos, coordinator of the Master in International Business, the Superior School of Technology and Management of IPLeiria, and all its member's staff for all the considerate guidance. I would also like to thank all the professors with whom I had the opportunity to share during the master's program, for all the knowledge and experiences acquire.

To conclude, I cannot forget to thank my family and friends for all the invaluable and unconditional support during the compilation of this dissertation.

Abstract

Following the RBV, firms have been motivated to develop capabilities in order to operate and obtain better performance. Whereas technological capabilities, such as R&D capabilities have been highlighted in this regard, other capabilities, such as Marketing capabilities have been gaining attention. Further, whether both sets of capabilities seem relevant for firms overall, they assume a key importance for firms operating in international, more complex, settings. Previous studies have been providing understanding in these issues. Yet, most assume a developed country perspective. Considering the increasing role of developing economies worldwide, this study examines data on MNCs from both developed and developing countries. Specifically, the current research studies the influence of R&D and Marketing capabilities on performance. The results show that R&D capability has a positive influence on performance, whereas Marketing capability showed no statistical significance. In addition, the level of development of the MNCs' country positively moderates the relationship between Marketing capability and performance.

Keywords: Performance, multinationals, R&D, marketing, capabilities.

Contents

List of Figures

List of Tables

List of Abbreviations and Acronyms

FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNI	Gross National Income
MC	Marketing Capability
MNCs	Multinational Corporations
NIEs	Newly Industrializing Economies
RBV	Resource Based View
ROA	Return on Assets
ROE	Return on Equity
ROS	Return on Sales
R&D	Research and Development
TC	Technological Capability

1. Introduction

In current decades there has been an unprecedented attention in capabilities and their impact on firm's performance (Wu, 2013). Capabilities are "complex bundles of skills and accumulated knowledge, exercised through organizational processes that enable firms to coordinate activities and make use of their assets" (Day, 1994, p. 38). As a part of a firm's routine, capabilities cannot be easily reproduced by competitors and can, therefore, represent distinctive sources of advantage to be exploited and developed in diverse methods.

In what concerns capabilities, previous literature pointed out the relevance of different sets of capabilities. Whereas capabilities such as Research and development (R&D) capability are valuable given that it allows firms to develop new offerings, with potential added value, they need to be complemented with other types of capabilities. When applying R&D capability, firms may discover new unique features but that are difficult to communicate to clients or are not perceived as important by them (Ernst, 2002). Therefore, capabilities such as marketing capability are key (Nath, Nachiappan & Ramanathan, 2010; O'Cass & Weerawardena, 2010; Weerawardena & O'Cass, 2004). Markets are the ones that ultimately will accept the products and, thus, the launch and commercialization of new services and products are advised by firms' marketing efforts (Shah, Rust, Parasuraman, Staelin & Day, 2006).

Additionally, while the existing studies on the capabilities-performance link have increased our knowledge of it (Hoskisson, Eden, Lau & Wright, 2000; Peng, 2003), there are still some research paths that need understanding. First, the growing world trade liberalization, the convergence of global economic conditions and the advances in communication and information technologies led an increasing number of firms to seek opportunities internationally (Katsikeas, 2003). And firms with international operations experience a more complex setting in which the relationship between capabilities and performance take place. Years ago the studies were developed predominantly in a domestic environment, but this has changed over time. Some studies as the ones made by the authors Desarbo, Di Benedetto, Song and Sinha (2005) and Wu (2013) showed the relationship between capabilities and performance in other environments. Second, Hoskisson, Eden, Lau and Wright (2000) and Peng (2003) alerted that the capabilities-performance link in an international setting has

mainly adopted the perspective of developed countries; nevertheless, the findings found so far are not likely to be generalizable for other types of economies. In such context, it is less obvious whether firms in other less developed settings should invest in the same type of capabilities that have proven to succeed in developed economies (Kim & Hoskisson, 2010; Peng, Wang & Jiang, 2008).

Most researches have been performed in developed economies, and only a few were undertaken in developing economies (e.g. Burgess & Steenkamp, 2006). Steenkamp (2005) indicated that this omission is astonishing because developing economies propose a rich base for establishing the generalizability of the research discoveries acquired from developed economies and to assess the extent to which they are specific to the institutional context. Developing economies not only give a natural laboratory for experimenting theories and developing new ones, but they also present practical relevance because success in developing economies is essential to the future of various firms (Burgess & Steenkamp, 2006). For instance, a defining characteristic of developing economies is the fast changes in their political, economic, and social institutions (Hoskisson et al., 2000; Burgess & Steenkamp, 2006). Wu (2013) indicated that a basic challenge for firms working in such environments is to predict the alterations and react to them, which would seem to create the adaption perspective especially relevant in developing economies. Peng (2003) suggested that as market-supporting institutions build in developing economies, firms can trust less on network-based, personal relations-oriented strategies and more on arm's-length contracts and capability-based strategies.

Sheng, Zhou and Li (2011) proposed that in developing economies, regardless the presence of legal codes, unpredictable and inconsistent legal implementation can result in the predominance of unethical or even unlawful conduct (for example: counterfeiting, false advertising, and cheating), which generates elevated levels of uncertainty in market transactions. Firms operating in an economy with weak legislative institutions confront not only elevated transaction costs but also elevated uncertainty (Wu, 2013).

Considering this background, this study follows the RBV perspective and analyzes the influence of two complementary capabilities, the R&D capability and the marketing capability (MC), in firm performance of firms from developed and developing countries. Particularly, study will focus on multinational companies (MNCs). This type of firms has allowed the growing globalization of R&D (Cantwell & Vertova, 2004; Gerybadze, 2004;

Guellec & de la Potterie, 2001). Whereas the world economy has been controlled by MNCs from developed countries, mostly from the Triad (Western Europe, North America, Japan), which situated most of their activities in their home region and other developed countries more recently the world witnesses an increasing importance of new MNCs from developing countries, which also expand in international markets and seek to become global market leaders (Ghemawat & Hout, 2008).

The development of this research intends to address two research objectives: first, to analyse what is the influence of two different sets of capabilities on performance, a more technological type of capabilities, and a marketing related type of capabilities; and second, to analyse what is the role of the level of development of a MNC's country in the relationship of capabilities and performance.

This dissertation is organized the following way: after the introduction chapter, the study has a literature research chapter, in which I present the theoretical background of the existing literature. The third chapter introduces the study's conceptual model, as well as the hypotheses development. The fourth chapter presents the methodological aspects of the study. The data analysis and research findings are presented and discussed in the fifth chapter. Next, chapter encloses the theoretical and managerial implications of the study, and the final chapter provides concluding remarks, as well as the study's limitations and future research suggestions.

This page intentionally left blank.

2. Literature Review

2.1. The Resource-Based View (RBV)

The resource based view (RBV) of the firm has its beginnings in the studies of Penrose (1959) and Nelson and Winter (1982) who argued that wining genes, or durable characteristics, of the firm are found within the enhancement of its best routines and/or resources. The researches made by Wade and Hulland (2004) and Barney (1991) indicated that firms' advantages from the accumulation of capabilities and resources that are difficult to be imitated or substituted; and valuable in comparison to those of rivals. Ray, Barney and Muhanna (2004) suggested that the relations among resource/capabilities and firm performance at the firm level are the sum of outcomes of distinct effects of distinct resources/capabilities. Similarly, Henderson and Cockburn (1994) stated that one could note discrepancies in performance among firms that deliver superior and low value resources/ capabilities and those that lacked resources/capabilities.

According to the RBV, firms that use their capabilities and internal resources to accomplish better performance are able to better address market competition and dynamics (Barney, 1991). Based on this approach, firms could be more effective if they focus their strategies on their main businesses, recognize their specific attributes to distinguish themselves from competitors and emphasize on unique market segments.

RBV mentions resources and capabilities, which are distinct. Resources are assets tied semi permanently to the firm that allow its managers to conceive and execute value-creating strategies. Among these resources, the RBV researchers suggest the firm to opt for the ones that are rare, hard to substitute for, superior in use, more useful inside the firm than outside, difficult to imitate and valuable (Barney, 1991; Porter, 1986). Still, the resources that the firm owns and controls are not, *per se*, a source of competitive advantage (Hsu, Chen, & Jen, 2008). In order to obtain value, resources have to be deployed into processes (e.g. capabilities) (Barney, 1991; Vorhies, Morgan & Autry, 2009; Wernerfelt, 2011). Capabilities are the processes by which the firm deploys available resources and transforms them into value; since they are embedded in the firm, they are hardly observed directly or duplicated (Grewal & Slotegraaf, 2007). Scholars consider that distinctively merging a set of complementary and specialized internal capabilities and resources, may conduct to value

creation (Amit & Schoemaker, 1993; Barney, 1991; Peteraf, 1993; Wernerfelt, 1984). As Barney (1997) paper suggested a firm's capabilities and resources are useful if they diminish a firm's expenses or improve its profits related to what would have been the case if the firm did not have those resources. The analysis of capabilities and resources has obtained a great deal of interest in strategic management and contemporary marketing research. Capabilities, are crucial sources of sustainable competitive advantage utilized by firms to leverage their assets and accomplish superior performance (Alexander & Satish, 2008). They "serve as the glue that binds different resources together and enables them to be deployed to maximum advantage" (Day 1994, p. 38).

2.2. Capabilities

Capabilities are defined as the firm ability to utilize assets propriety to create, produce and offer its products to a market (Wade & Holland, 2004). Amit and Schoemaker (1993) and Helfat and Peteraf (2003) proposed that capabilities are described as the abilities of firms to exploit and use resources in order to achieve a desired objective.

Capability leveraging is the procedure by which a firm is capable to apply resources gained in one situation to serve a distinct market (Miller, 2003). Tallman and Faldmoe-Lindquist (2002) suggested that capability leveraging processes are activities that firms use to obtain competitive advantage by utilizing their current capabilities in the marketplace. All firms, especially MNCs, rely on their current capabilities to produce revenues in order to finance new capabilities and assets (Tallman & Faldmoe-Lindquist, 2002).

Several previous studies (Ketchen Jr., Hult, & Slater, 2007; Morgan, Vorhies & Mason, 2009b) presented that while having abundant resources is valuable, some complementary capabilities are necessary to implement these resources in order to match the market conditions to achieve optimum firm performance. Some researchers stated that capabilities are the glue that connects firm assets to allow the successful performance of value-creating assignments (Martin & Javalgi, 2016; Theodosiou, Kehagias & Katsikea, 2012; Vorhies & Morgan, 2005). They are intensely rooted in organizational routines and processes that are hard to trade or reproduce, therefore they function as sustainable resources.

Preceding scholarly research has identified marketing capabilities (Kotabe, Srinivasan & Aulakh, 2002), research and development capabilities (Chakrabarty & Wang, 2012), technological capabilities (Song, Droge, Hanvanich & Calantone, 2005), management

capabilities (Desarbo, Di Benedetto, Song & Sinha, 2005) and operational capabilities (Worren, Moore & Cardona, 2002) as significant.

A number of studies (Krasnikov & Jayachandran, 2008; Knight & Cavusgil, 2004; Kotabe et al., 2002; Morgan et al., 2009b; Renko, Carsrud & Brännback, 2009) indicated that a variety of aspects of a firm's capabilities are present in the literature, including operational, technological, organizational, and marketing capabilities. Considering the aforementioned capabilities, the literature categorizes marketing capability as performing a considerable role in firm performance (Krasnikov & Jayachandran, 2008; Nath et al. 2010), especially when compared to other capabilities. Morgan, Vorhies and Mason (2009b) suggested that rooted in the organization of firms, marketing capability may prove to be an inimitable, immobile, and largely non-substitutable resource for firms that seek to generate appropriate results.

Desarbo et al. (2005) indicated that marketing capabilities, such as abilities in advertising, pricing, targeting, and segmentation allow the business to take advantage of its market feeling and to execute efficient marketing programs.

Krasnikov and Jayachandran (2008) suggested that R&D capability is a firm's competency in applying and evolving dissimilar technologies to create effective new services and products; therefore, R&D capability is based on the routines that help a firm develop new technical knowledge, combine it with current technology, and design superior services and products.

Technological capabilities are defined as the capability to make an effective use of technological knowledge for investment, innovation and production (Katz, 1987; Maxwell, 1987; Teitel, 1987; Westphal, Kim & Dahlman, 1985). Unlike forms of literature have converged on the argument that there is a connection among the technological capabilities of firms and their innovative performance; this firm-level work has similarly explored the role of technological learning for technological capabilities building (Bell, 1984; Katz, 1976).

Management capabilities involve the capability to incorporate control costs, logistics systems, handle human and financial resources, forecast revenues, and handle marketing planning (Desarbo et al., 2005).

Operational capabilities are defined as those that facilitate firms to, create a living, on a constant basis, embodied in routines that assist customer value creation or process optimizing actions heading to cost reductions (Winter, 2003).

Among the identified capabilities, this research will focus on R&D capability and marketing capability. On what concerns the first, Selnes and Sallis (2003) state that firms gradually encounter the challenges of changes in technology and globalization, and therefore it is crucial for firms' competitiveness to own some capabilities, such as R&D capability, that help a firm compete and adapt more successfully. In what regards the latter, Tsai and Eisingerich (2010) suggested that the most value-added elements of any technology value chain, which similarly generate the greatest revenue margins, is not just R&D but also marketing. Murray, Gao and Kotabe (2011) and Morgan, Katsikeas and Vorhies (2012) also referred the importance of marketing capability.

In this way, I decided to considered in this study R&D capability, because previous studies showed that this capability really influence in general firm's performance (Lee & Min, 2015; Lee & Wu, 2016; Rafiq, Salim & Smyth, 2016; Shin, Kraemer & Dedrick, 2017). R&D capability in particular has emerged as a central theme in the international ventures and rapid internationalization literature and is seen as a strategically important source of competitive advantage (Filatotchev & Piesse, 2009; Golovko & Valentini, 2011; Knight & Cavusgil, 2004).

I decided to consider marketing capability given that previous studies demonstrated that this capability impact firm's performance (Krasnikov & Jayachandran, 2008; Rust, Ambler, Carpenter, Kumar & Srivastava, 2004a). Also, compared with operational, technological and other such capabilities, marketing capabilities seem less vulnerable to replication and imitation due to the idiosyncratic and tacit knowledge involved and its imperfect mobility (Dutta, Zbaracki & Bergen, 2003; Krasnikov & Jayachandran, 2008; Simonin, 1999; Vorhies & Morgan, 2005). Because marketing procedures are frequently firm-specific, the marketing managers will developed unique marketing capabilities that combine their particular knowledge and skills with the other tangible and intangible resources available to them (Day, 1994). As such, these capabilities can help a sustainable market advantage (Morgan et al., 2009b; Vorhies et al., 2009). Therefore, R&D and marketing capabilities are going to be further developed next.

2.2.1. Research and Development (R&D) Capability

Chakrabarty and Wang (2012) indicated that R&D capability is defined as R&D spending per employee within a firm, which is a general indicator of the firm's intellectual capital and innovative capabilities.

Numerous studies demonstrated that R&D investments impact the firm's performance in general (Lee & Min, 2015; Lee & Wu, 2016; Rafiq et al., 2016; Shin et al., 2017). A positive relationship between R&D capability and firm performance have been found by a number of researches (Delios & Beamish, 1999; Kotabe et al., 2002; Ehie & Olibe, 2010; Sougiannis, 1994).

Even though R&D investments are positively associated with firm performance, several researches indicate that these effects are lagged. A study presented by Hirschey and Weygandt (1985) observed how the R&D expenditures of certain US firms influenced their Tobin's Q ratios, and realized that they had lag effects on firm performance of more than five years. Another study also realized that the share costs of high-tech firms would rise after the statement of an increase in R&D expenditures, considering a rise in R&D expenditure had a negative impact for low-tech firms (Chan, Martin, & Kensinger, 1990).

2.2.2. Marketing Capability (MC)

Day (1994) defined marketing capability as the integrative methods created to apply the collective skills, knowledge, and resources of the firm to the market-related demands of the business, facilitating the business to improve value to its services and goods and meet competitive demands. It reflects the ability of firms to use the available resources to execute marketing and other associated assignments in way that accomplish a preferred marketing result (Bahadir, Bharadwaj & Srivastava, 2008; Krasnikov & Jayachandran, 2008), such as customer satisfaction and sales (Day, 1994; Rust et al., 2004a; Srivastava, Fahey & Christensen, 2001; Vorhies & Morgan, 2005; Winter, 2000).

Marketing capability importance for firms has been mentioned in previous studies. Shah, Rust, Parasuraman, Staelin & Day (2006) refer that this capability can support firms acquire essential intelligence on competitors, customers, and market trends in general. Rust, Lemon and Zeithaml (2004b) mention its key role in accentuating the firm's interest, maximizing value from client relationships and creating income flows from current and new clients. Jaworski and Kohli (1993) evidenced its role in getting the voice of consumers. Firms may

be better capable to pick up and trade upon new chances when firms' marketing capability is high (vs. low), because firms are influenced by consumer and competitor action (Jaworski & Kohli, 1993).

Two areas of interrelated marketing capacity have been recognized: capabilities affected with the procedures of execution and marketing strategy development (Morgan, Zou, Vorhies & Katsikeas, 2003), and capabilities regarding individual 'marketing mix' procedures, such as selling, product development and management, pricing, channel management, and marketing communications (Vorhies & Morgan, 2005).

Dutta, Narasimhan and Rajiv (1999) showed that a firm with robust marketing capabilities is better capable to position and target its products, comprehends better the factors that affect customer selection and recognizes customers' desires better, which will be reflected on performance. The company's best performance will be achieved by incorporating the marketing capabilities because "…such integration reconfigures competencies, reduces the resources deficiency, and generates new applications" (Song, Droge, Hanvanich & Calantone, 2005, p. 262). Further, not only does marketing capability is a valuable market-relating mechanisms by which exceptional market knowledge may be implemented by firms to produce financial rents, but it also facilitates firm's alignment with its market environment better than its competitors (Day, 1994; Eisenhardt & Martin, 2000).

2.3.Multinational Corporations (MNCs)

A MNC can be defined as an enterprise that engages in foreign direct investments (FDI) and which owns or, to a certain extent, controls value-added activities in several countries (Dunning & Lundan, 2008).

Hedlund (1986) emphasized that the organizational configuration of the MNC impacts strategic determinations and the interpretation of the environment. The heterarchical structure needs a solid incorporation of distinct units to maintain the unity of the organization, but also a particular degeneration of other activities to prevent a high degree of centralization.

MNCs exist in a diversity of ways, going from smaller firms that invest abroad to large groups that manage subsidiaries in a significant quantity of countries; nowadays, the limitations among a MNC and its environment have become loose (Mayrhofer, 2012).

MNCs are thus embedded in multiple networks which are expected to evolve over time based on the local environments where they work (Hennart, 2009).

Rugman (2005) conducted an empirical study where he highlighted that the majority of the world's 500 largest Multinational Corporations (MNCs) are regional or bi-regional groups, exemplified by a solid presence in their home region.

Silverman (1999) suggested that with the strengthening global competition, MNCs must constantly innovate to attract and maintain customers; innovation permits MNCs to build capabilities that provide them a competitive advantage over their competitors by presenting distinctive processes, services, products and goods that are difficult for rivals to replicate. Hagedoorn and Cloodt (2003) indicated that R&D activities give the fundamental inputs to MNCs' innovation, leading to patents and ultimately new products.

Because MNCs have operations that are positioned within varied national innovation systems (Cantwell, 1989; Cantwell & Mudambi, 2005; Furman, Porter & Stern, 2002), these firms are in a unique situation to create new and varied combinations of knowledge that other firms will have a problematic time imitating without being in those same geographic locations (Kogut & Zander, 1992; Gupta & Govindarajan, 2000; Martin & Salomon, 2003).

This page intentionally left blank.

3. Conceptual Model and Hypotheses Development

Capabilities are the accrued, complex bundles of knowledge and abilities rooted in organizational procedures (Eisenhardt & Martin, 2000; Helfat & Peteraf, 2003). It is important to consider the influence of R&D capability and MC in firm performance, because several previous studies (Filatotchev & Piesse, 2009; Golovko & Valentini, 2011; Knight & Cavusgil, 2004; Tsai & Eisingerich, 2010) demonstrate that a huge amount of firms from newly developed emerging markets, such as South Korea, Brazil, and Taiwan, that operate in area such as technology, showed that R&D capability and MC have a significant role in driving firm success.

In the international literature, several were the studies that argued in favour of R&D capability as a tactically significant source of competitive advantage (Filatotchev & Piesse, 2009; Golovko & Valentini, 2011; Knight & Cavusgil, 2004). Kotabe (1990a) proposed that firms can enhance their performance by centring on product design/development and by enhancing their manufacturing processes.

According to concepts on the globalisation of innovation, major and more advanced R&D activities are still overwhelmingly established in the home countries of MNCs (Vernon, 1966; Patel & Pavitt, 1991; Patel, 1995; Doremus, Keller, Pauly & Reich, 1998). What is more significant is that even if certain components of the innovation do globalise, this only occurs among the advanced industrialised countries in Western Europe, the United States, and Japan, the so-called Triad. A research of 244 worldwide top R&D-intensive firms indicated that 80% of their overall investment still remains in the Triad (Boutellier, Gassmann & Zedtwitz, 1999, p. 9). An additional research suggested that the figure is 95% (Fusfeld, 1995, p. 264).

Several earlier researches have presented evidence of the impact of R&D capability on firm performance. For example, Alexander and Satish (2008), Kotabe (1990b) and Mansfield (1981) contributed in the comprehension of particular essential factors, such as R&D capability and its influence on firm performance. Hufbauer (1970), Mansfield (1981) and Kotabe (1990b) found positive relationship between R&D capability and firm performance. And more recently, Ren, Eisingerich and Tsai (2015) explored the influence of R&D capability, R&D intensity, sales and patent activity on performance.

Earlier study indicated that R&D spending impacts a firm's innovation (Wadhwa & Kotha, 2006; Wang & Kafouros, 2009). Innovation activities and R&D in turn have been shown to perform an essential part in explaining a firm's decision to export and export volumes (Cassiman & Golovko, 2011). For instance, the authors Zhao and Li (1997) noticed that the effect of R&D capability on both growth and export propensity is positive and significant. Undertaking R&D activities between international cooperation's (Tellis, Eisingerich, Chandy & Prabhu, 2008) and within organizations considerably decrease entry barriers into foreign markets (Wang & Kafouros, 2009).

Autio, Sapienza & Almeida (2000) suggested that international firms may additionally benefit from learning advantages. Zhou, Wu & Barnes (2012) showed that this learning advantage makes internationalized firms more adaptable to obtain critical additional knowledge that supports them with their innovation activities. Notably, for international firms to be capable to enjoy and trade upon learning advantages of newness, the role of a firm's absorptive capability is crucial (Zhou & Wu, 2014). Cohen & Levinthal (1990) indicated that the R&D capability of a firm is also associated to a firm's absorptive capability. That is, R&D activity of a firm may not only produce new information, but also can enhance the ability of the firm to exploit and integrate current information (Cohen & Levinthal, 1990). Cohen and Levinthal (1990) demonstrated that R&D capability should consequently play an essential role in firms' performance. Accordingly, I expect that firms that possess a high level of R&D capability are more likely to achieve better performance. Therefore,

H1. R&D capability influences positively performance of MNCs.

Researchers established that marketing capabilities do perform an essential part in firms' foreign investments (Anand & Delios, 2002). Kotabe, Srinivasan and Aulakh (2002) revealed that a firm with greater promotion and advertising expenses, it is estimated, will produce more sales in foreign markets. A number of studies (Caves, 1996; Hennart, 1991) found that given that markets across the world are becoming more globalized, firms that strongly invest in marketing are likely to gain more than those that do not.

Ju, Zheng, Yong and Jiangyong (2013) indicated that firms can learn from watching the strategic movements of their counterparts. Firms can likewise learn from their own successful and unsuccessful experiences to collect local knowledge (Hultman, Katsikeas &

Robson, 2011; Johanson & Vahlne, 1990), which in turn guides future new product development and helps them use marketing capability more effectively to enhance performance.

Earlier researches have presented empirical evidence of the impact of marketing capability on numerous indicators of firm performance. For instance, Dutta et al. (1999) emphasized the significance of marketing capability to guarantee successful commercialization of technologies and products. Srivastava and Reibstein (2005) demonstrated that marketing capability plays a considerable role in determining firms' strategic orientation and financial performance outcomes. Bruni and Verona (2009) suggested that marketing capability is critical to technological innovation. Utilizing survey data from 209 service and manufacturing firms in Korea, Kim, Shin and Min (2016) observed that marketing capability enhances product advantage and product-market performance.

Indeed, Krasnikov and Jayachandran (2008) stated that in general the literature has recommended that the marketing capability is positively associated to the performance of the firm, as they allow firm to obtain and utilize market knowledge to present superior customer value. Prior research (Gellynck, Banterle, Kuhne, Carraresi & Stranieri, 2012) showed that marketing capability is important to accomplish good performance as firms can fulfil consumer predilections through differentiation.

Marketing capability, that is, enhanced utilization of customer and relevant business intelligence, improved consumer or market research and analysis, and enhanced delivery and marketing processes, and the firm´s performance are positively associated (Shah et al., 2006; Tsai & Eisingerich, 2010). A robust marketing capability can support firms utilize limited resources more efficiently (Rust, Lemon & Zeithaml, 2004b) and can even improve consumer collaboration (Prahalad & Ramaswamy, 2000). Park, Eisingerich & Park (2013) suggested that a marketing oriented firm aligns its performance metrics, procedures as well as consumer-related behaviours with the purpose of constructing stronger relations with its consumers. Following the idea of marketing, the procedures of a firm should be aligned with the requirements of consumers that may, and in fact are expected to, change over time (Eisingerich & Bhardwaj, 2011; Kumar, Venkatesan & Reinartz, 2008; Rust et al., 2004b).

Ren et al. (2015) suggested that is through the marketing capability of a firm that advantages in terms of improved performance can be maximized. For example, the firm Taiwan's Acer,

which as a foundation of its efforts utilized marketing as a main instrument to gather market information and customer as a source of additional development and learning (Ren, Eisingerich & Tsai, 2015). Some firms as Huawei, is following a methodology whereby the firm invests strongly in R&D while at the same moment significantly investing in its marketing capability to improve performance (Ren et al., 2015). Accordingly, I expect that firms that possess a high level of marketing capability are more likely to achieve better performance. Thus,

H2. MC influences positively performance of MNCs.

Economic development is generally specified by an economy's annual GDP per capita (Berry, Guillén & Zhou, 2010). In economies with low levels of economic development, customers' purchasing power is generally restricted. With restricted purchasing power, customers choose affordable products that submit fundamental functionality over products with new characteristics at a premium price (Burgess & Steenkamp, 2006; Day & Wensley, 1988). Wu (2013) recommended that to succeed, a firm should minimize its advertising, labor costs, sales and others; Marketing capabilities are consequently less powerful when the market's economic development is low.

As the economy improves, consumers' purchasing power increases, and consumers' predilections diversify. Consumers come to choose better-quality products that address their distinctive predilections. In such circumstances, firms must precisely sense the desires of specific market segments and rapidly react to them. Superior marketing capabilities facilitate firms to obtain and decipher market information and predict the trajectory of consumer predilections better. A firm can accordingly anticipate market requirements in advance of competitors and react better to consumers' evolving needs (Roth & Jackson, 1995).

H3. Marketing capabilities have a more positive influence on performance of MNCs from developed countries than on performance of MNCs from developing countries.

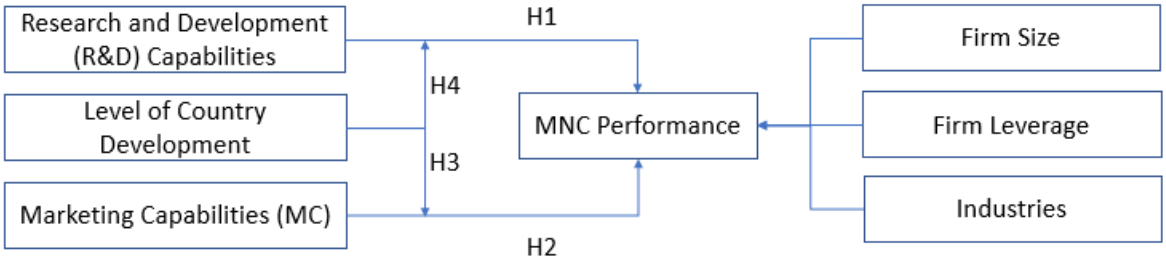
The effect of environmental elements is evident in the literature on innovation (Martínez-Román, Gamero, Delgado-González & Tamayo, 2019). The sociocultural, scientific, economic, technological and business characteristics of regions and countries obviously condition innovation patterns and external knowledge linkages (Blažek, Žížalová, Rumpel, Skokan & Chládek, 2013; Brown, Gregson & Mason, 2016; Isaksen & Trippl, 2017; Tödtling, Skokan, Höglinger, Rumpel & Grillitsch, 2013). Institutional and organizational

thickness and the extensive variety of resources available make developed countries the environment most conducive to innovation (Martínez-Román, Gamero, Delgado-González & Tamayo, 2019). Therefore,

H4. R&D capabilities have a more positive influence on performance of MNCs from developed countries than on performance of MNCs from developing countries.

Following the hypotheses developed, figure 1 presents the conceptual model proposed.

Figure 1. Conceptual model.



Source: Author.

This page intentionally left blank.

4. Method

4.1. Research setting

Although there is not standard definition of the term 'Multinational Corporations', the Directory of Multinationals suggests a comprehensive and up to date profiles on the world's top global corporations, particularly in which these firms account for an important proportion of the foreign direct investment in the world (Geringer, Tallman & Olsen, 2000; Carpenter, Sanders & Gregersen, 2001; Stafford, Purkis & Stopford, 1989).

According to figures presented by UNCTAD (2011), there exist around 82,000 MNCs in the world, which own 810,000 subsidiaries situated in numerous countries. The ranking announced by Global Fortune 500 (2011) indicated that, among the 500 largest MNCs, 133 have their headquarters in the United States, 68 in Japan, 61 in China, 35 in France, 34 in Germany and 30 in the United Kingdom.

Over past few decades, FDI of MNCs were mostly situated in their home region, and ultimately in another region of the Triad (North America, Western Europe, Japan) (Rugman, 2005). Contemplating the growing globalization of markets, MNCs have a tendency to accelerate the internationalisation of their activities and to diversify the geographic location of subsidiaries.

Figures presented by UNCTAD (2011) revealed that, during the year 2010, MNCs have established 19,547 subsidiaries. 14,142 subsidiaries are greenfield investments of which 47.8% are created in developed countries, and 5,405 subsidiaries result from mergers and acquisitions of which 67.3% have been operated in developed countries. Available figures highlight the increasing interest of MNCs for FDI in developing countries, namely in BRIC (Brazil, Russia, India, China) countries where MNCs established 21.7% of their greenfield investments and 15.1% of their mergers and acquisitions.

4.2. Research design and data collection

I implement a secondary data–based research design, which allows to test the hypotheses in a sample of firms, over a time period, as per the research of Feng, Morgan and Rego (2015). Nevertheless, I recognize that employing secondary data has a variety of disadvantages. For

example, there are primary measures that permit more precise observation of the phenomenon. It is important to indicate that secondary data includes the utilization of indirect indicators. Additionally, as secondary data are registered at the firm level, for firms with numerous strategic business units (SBU) they exclude analyses at the SBU level.

The present study focuses on MNCs, hence, only MNCs were considered for the sample. The information was retrieved in 2019. The list of firms was obtained from the website https://www.morningstar.com/, and the financial data from each firm's financial annual report. To ensure rigour, I selected the firms that had information for 3 years of information (2017, 2018 and 2019) in both independent variables (R&D Capability and Marketing Capability). I also gathered data for control variables for that period of time. Based on the explained procedures, it is important to mention that there were firms that were eliminated due to insufficient data (i.e., missing data). The time frame of three years (2017–2019), coupled with the lack of data on numerous firms or variables reduced the initial sample to 100 leading MNCs; considering MNCs from countries such as: Brazil, Canada, USA, Denmark, Finland, France, Germany, Netherlands, Sweden, Switzerland, UK, China, Japan, Philippines, South Korea, Taiwan, and Turkey. Particularly, the study is tested in 100 MNCs, 90 MNCs from developed countries, and 10 MNCs from developing countries.

The selected MNCs are, on average, large mature firms (with an average of 60.39 billion $ in total assets, 38.72 billion $ in sales, 2.50 billion $ in R&D expenses, 4.37 billion $ in marketing expenses). And are distributed across a variety of industries.

4.3. Variable measurement

4.3.1. Performance

Morgan, Slotegraaf and Douglas (2009a) indicated that firm performance is a complex phenomenon, and executives frequently confront trade-off decisions regard to distinct time frames and performance metrics. Earlier researches have embraced objective approaches to quantify firms' performance, such as return on assets (ROA) (Delios & Beamish, 1999; Gomes & Ramaswamy, 1999; Grant, 1987; Grant, Jammine & Thomas, 1988; Hitt, Hoskisson & Kim, 1997; Kim, Hwang & Burgers, 1989), return on equity (ROE) (Grant, 1987; Wan, 1998), sales growth (Geringer et al., 2000; Kim et al., 1989), return on sales (ROS) (Daniels & Bracker, 1989; Geringer, Beamish & DaCosta, 1989; Geringer et al.,

2000; Kim et al., 1989; Tallman & Li, 1996), Tobin's q (Ramírez-Alesón & Espitia-Escuer, 2001), or return on stock price.

The ROE is too susceptible to the variations in equity, to be an adequate measure among accounting-based measures. Even though several researches have made use of ROS and ROA simultaneously (Grant, 1987), some other researches just employed ROA (Hitt et al., 1997). However, some researchers (Geringer et al., 1989) claimed that ROS is more applicable to international business studies for the reason that it is stated in terms of the foreign exchange spot rate, which is usually considered as a more precise consideration of current operations, in addition, such measurement avoids the probable issue of the manipulation of asset estimations. For these purposes, I chose as the measure of firms' performance the ROS, ratio of net income to total sales.

4.3.2. R&D capability

R&D is the investment on innovation and learning (Cohen & Levinthal, 1989). Therefore, in this research I measured R&D capability as the firm's yearly R&D expenditure. As Caves (1996), Delios and Beamish (1999) and Horst (1972) proposed in their researches, I employed the ratio of R&D expenditures to total sales, as a replacement for R&D investment to determine R&D capability.

4.3.3. MC

Researchers (Kotabe et al., 2002; Luo, 2008; Mizik & Jacobson, 2003) employed the marketing spending to determine MC. Consequently, I quantified marketing capability as the firm's yearly marketing expenditure. Considering the measurements used by Caves (1996), Delios and Beamish (1999) and Horst (1972) in their researches, I utilized the ratio of marketing expenditures to total sales, as a substitute for marketing investment to compute marketing capability.

4.3.4. Level of country development

The level of country development is a dummy variable that indicate whenever each of the MNC belongs to a developing or developed country.

In this study the countries are classify as developing or developed country based on the World Economic Situation and Prospects (WESP), that was prepared by the Development Policy and Analysis Division (DPAD) of the Department of Economic and Social Affairs of

the United Nations Secretariat (UN/DESA). It is based on information obtained from the Statistics Division and the Population Division of UN/DESA, as well as from the five United Nations regional commissions, the United Nations Conference on Trade and Development (UNCTAD), the United Nations World Tourism Organization (UNWTO), the International Monetary Fund (IMF), the World Bank, the Organization for Economic Cooperation and Development (OECD), and national and private sources. Estimates for the most recent years were made by DPAD in consultation with the regional commissions, UNCTAD, UNWTO and participants in Project LINK, an international collaborative research group for econometric modelling coordinated jointly by DPAD and the University of Toronto. Forecasts for 2014 and 2015 are primarily based on the World Economic Forecasting Model of DPAD, with support from Project LINK.

4.3.5. Control Variables

To prevent the effect produced by variables that are not in the model, I focused in earlier studies (Delios & Beamish, 1999; Geringer et al., 2000; Grant et al., 1988; Tallman & Li, 1996) and decided to control for the impacts of firm size and firm leverage (that is operationalized as the ratio of debt). Chiao, Yang and Yu (2006) suggested that larger firms are believed to have an above-average capability to leverage in a lower cost of capital, to diversify their firm-specific risks, and to seize revenue. Accordingly, firm size is calculated as a logarithmic function of the number of total employees. Jensen (1989) indicated that the capital structure is also between the most important elements influencing firms' performance. According to prior researches (Delios & Beamish, 1999; Geringer et al., 2000; Grant et al., 1988; Hitt et al., 1997; Tallman & Li, 1996), I controlled for the impact of the ratio of debt as measured by total debts to total assets. To ensure rigour, rather than focusing on a single year, and based on previous studies suggestions, I averaged the data of the three years under study. The variables, and measures, are listed in Table 1.

Chiao et al. (2006) suggested that the firm size calculated by number of employees is also converted by logarithmic function.

Table 1. Variables and measurement.

Type	Variable	Measurement
Dependent variable	Performance	Average of the three years of the ROS: net income to total sales.
Independent variables	R&D Capability	Average of the three years of the ratio of R&D expenditures to total sales.
	Marketing Capability	Average of the three years of the ratio of marketing expenditures to total sales.
	Level of country development	Dummy variable coded “0” if the MNC is from a developing country and code "1" if the country is from a developed country.
Control variables	Firm size	Average of the three years of number of total employees (logarithm).
	Firm leverage	Average of the three years of the ratio of debt: total debts to total assets.
	Industry	Dummy variable coded “1” if the MNC is from a specific industry and code "0" otherwise.

Source: Author.

This page intentionally left blank.

5. Data Analysis and Results

In this study, I used IBM SPSS Statistics, version 27, to analyse data as well as test the model; and I used a linear regression model to test the hypotheses.

5.1. Data Analysis

5.1.1. Descriptive Statistics

Analysing the descriptive statistics of the variables used in the model (Table 2), Performance, which was measured by ROS (return on sales) shows a minimum value of -0.75, a maximum value of 0.35 and a mean value of 0.0787. In the case of the R&D Capability, measured by the ratio of the R&D expenditures to the total sales, it shows a minimum value of -0.39, a maximum value of 0.00 and a mean value of -0.0871. Continuing with the Marketing Capability that is the other independent variable, and was measured by the ratio of the marketing expenditures to the total sales shows a minimum value of -0.51, a maximum value of 0.00 and a mean value of -0.1402.

Table 2. Descriptive statistics.

Descriptive Statistics					
Variables	N	Minimum	Maximum	Mean	Std. Deviation
Performance	100	-0.75	0.35	0.0787	0.13455
R&D Capability	100	-0.39	0.00	-0.0871	0.08679
Marketing Capability	100	-0.51	0.00	-0.1402	0.10143
Firm size	100	2.87	5.83	4.5902	0.61130
Firm leverage	100	0.00	0.55	0.2059	0.13963
Level of country development	100	0	1	0.90	0.302
Aerospace Industry	100	0	1	0.04	0.197
Automotive Industry	100	0	1	0.09	0.288
Beverages Industry	100	0	1	0.03	0.171
Chemicals Industry	100	0	1	0.06	0.239
Consumer goods Industry	100	0	1	0.05	0.219
Entertainment Industry	100	0	1	0.04	0.197
Food Industry	100	0	1	0.03	0.171
Internet Industry	100	0	1	0.02	0.141

Manufacturing Industry	100	0	1	0.04	0.197
Oil and gas Industry	100	0	1	0.03	0.171
Pharmaceutical Industry	100	0	1	0.05	0.219
Semiconductors Industry	100	0	1	0.05	0.219
Sports equipment Industry	100	0	1	0.01	0.100
Technology Industry	100	0	1	0.32	0.469
Telecommunications Industry	100	0	1	0.07	0.256
Transportation Industry	100	0	1	0.03	0.171
Video games Industry	100	0	1	0.04	0.197
Valid N (listwise)	100				

Source: Author.

5.1.2. Correlations

Marôco (2018) proposed that a recommended Pearson's correlation coefficients in a range from 0 to 1 should be lower than 0.7, taking into account the results indicated on Table 3, all the coefficients are lower than 0.7

James, Witten, Hastie & Tibshirani (2013) indicated that a recommended VIF value should be below the threshold of 10, considering the results showed on Table 3., all the variables used in the study have a VIF value lower than 3, the minimum VIF value is 1.045 and the maximum VIF value is 2.567, based on the above there are no problems of multicollinearity.

The control variables firm size and internet industry have a positive significant relationship with dependent variable Performance, both have a p-value < 0.05

Table 3. Correlations.

		VIF	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	Performance		1																						
2	R&D Capability	2.567	0.099	1.000																					
3	Marketing Capability	1.735	0.010	0.293**	1.000																				
4	Firm size	1.427	0.245*	0.339**	0.128	1.000																			
5	Firm leverage	1.126	0.058	0.096	0.028	0.194	1.000																		
6	Level of country development	1.178	0.080	-0.129	-0.198*	0.044	0.097	1.000																	
7	Aerospace Industry	1.086	-0.112	0.141	0.174	0.010	-0.064	-0.102	1.000																
8	Automotive Industry	1.296	-0.050	0.194	0.210*	0.237*	0.177	0.105	-0.064	1.000															
9	Beverages Industry	1.069	0.039	0.174	-0.021	-0.024	0.000	-0.137	-0.036	-0.055	1.000														
10	Chemicals Industry	1.147	0.124	0.162	0.062	0.047	0.045	0.084	-0.052	-0.079	-0.044	1.000													
11	Consumer goods Industry	1.140	0.098	0.151	-0.296**	0.113	-0.009	0.076	-0.047	-0.072	-0.040	-0.058	1.000												
12	Entertainment Industry	1.196	-0.061	0.110	-0.038	-0.276**	-0.088	0.068	-0.042	-0.064	-0.036	-0.052	-0.047	1.000											
13	Food Industry	1.096	0.002	0.139	-0.161	0.122	0.021	0.059	-0.036	-0.055	-0.031	-0.044	-0.040	-0.036	1.000										
14	Internet Industry	1.074	0.241*	-0.177	-0.086	-0.122	-0.079	0.048	-0.029	-0.045	-0.025	-0.036	-0.033	-0.029	-0.025	1.000									
15	Manufacturing Industry	1.105	-0.023	0.145	0.078	-0.060	0.065	0.068	-0.042	-0.064	-0.036	-0.052	-0.047	-0.042	-0.036	-0.029	1.000								
16	Oil and gas Industry	1.089	-0.116	0.159	0.194	0.098	0.037	0.059	-0.036	-0.055	-0.031	-0.044	-0.040	-0.036	-0.031	-0.025	-0.036	1.000							
17	Pharmaceutical Industry	1.163	0.172	-0.176	-0.243*	0.166	0.083	0.076	-0.047	-0.072	-0.040	-0.058	-0.053	-0.047	-0.040	-0.033	-0.047	-0.040	1.000						
18	Semiconductors Industry	1.129	0.157	-0.163	0.188	-0.094	0.002	0.076	-0.047	-0.072	-0.040	-0.058	-0.053	-0.047	-0.040	-0.033	-0.047	-0.040	-0.053	1.000					
19	Sports equipment Industry	1.045	-0.029	0.088	-0.195	-0.083	-0.103	0.034	-0.021	-0.032	-0.018	-0.025	-0.023	-0.021	-0.018	-0.014	-0.021	-0.018	-0.023	-0.023	1.000				
20	Technology Industry		-0.086	-0.107	-0.033	-0.048	-0.016	-0.200*	-0.140	-0.216*	-0.121	-0.173	-0.157	-0.140	-0.121	-0.098	-0.140	-0.121	-0.157	-0.157	-0.069	1.000			
21	Telecommunications Industry	1.148	-0.181	-0.277**	0.042	0.046	0.003	-0.170	-0.056	-0.086	-0.048	-0.069	-0.063	-0.056	-0.048	-0.039	-0.056	-0.048	-0.063	-0.063	-0.028	-0.188	1.000		
22	Transportation Industry	1.092	-0.178	0.005	0.034	-0.007	-0.123	0.059	-0.036	-0.055	-0.031	-0.044	-0.040	-0.036	-0.031	-0.025	-0.036	-0.031	-0.040	-0.040	-0.018	-0.121	-0.048	1.000	
23	Video games Industry	1.192	0.147	-0.385**	-0.061	-0.263**	-0.112	0.068	-0.042	-0.064	-0.036	-0.052	-0.047	-0.042	-0.036	-0.029	-0.042	-0.036	-0.047	-0.047	-0.021	-0.140	-0.056	-0.036	1.000

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

5.2.Model Testing

To analyse the influences of R&D capability and Marketing capability on performance of MNCs, I used a multiple step Linear Regression model in SPSS (Aiken, West & Reno, 1991). Model 1, or control model, includes the influence of the control variables (firm size, firm leverage and industry) and of the level of country development. Model 2 adds to the control model the independent variable R&D capability; model 3 adds to the control model the independent variable Marketing capability and model 4 is the full model (Table 4).

For the four models, the values of F found in the study demonstrated significance. For model 1 the F-Value is 2.494 and the p-value is < 0.01, for model 2 the F-value is 2.789 and the p-value is < 0.001, for model 3 the F-value is 2.445 and the p-value is < 0.01, and for model 4 the F-value is 2.635 and the p-value is < 0.001. Pestana & Gageiro (2005) indicated that the F-test doesn´t confirm each of the parameters alone, but rather the model in general. Based on the above I can validate the model significance through the F-test, the general model is statistically significant.

Further, Wiley (2005) suggested that R^2 and adjusted R^2 are relevant indicators of linear models. These statistics derive from analyses based on the general linear model (e.g., regression), with R^2 representing the proportion of variance in the outcome variable which is explained by the predictor variables in the sample, and the adjusted R^2 representing an estimate in the population. Model 1 has a R^2 of 0.372 and an adjusted R^2 of 0.223; model 2 a R^2 of 0.414 and an adjusted R^2 of 0.265; model 3 a R^2 of 0.382 and an adjusted R^2 of 0.226, and model 4 a R^2 of 0.415 and an adjusted R^2 of 0.258.

Model 1 shows that firm size is statistically significant at a p-value<0.001, as well as some industries.

Model 2 allows testing hypothesis 1, that is, R&D capability influences positively performance of MNCs. Considering the relationship between R&D capability and performance's coefficient of 0.328 with a p-value<0.05, we can confirm hypothesis 1.

Model 3 allows testing hypothesis 2, ie, Marketing capability influences positively performance of MNCs. Even though Marketing capability shows a positive coefficient of

0.134, it does not have statistical significance. Consequently, hypothesis 2 was not confirmed.

Model 4 shows the complete model and shows stability in the results and conclusions obtained in models 2 and 3, that is, that R&D capability's positive influence on MNCs' performance is significant, while Marketing capability's influence is not.

Table 4. Results of the linear regression.

	Model 1	Model 2	Model 3	Model 4
R&D Capability		0.328*		0.308*
Marketing Capability			0.134	0.048
Firm size	0.408***	0.315**	0.384***	0.312**
Firm leverage	0.027	0.018	0.030	0.019
Level of country development	-0.021	0.050	0.007	0.055
Aerospace Industry	-0.092	-0.142	-0.114	-0.147
Automotive Industry	-0.107	-0.169	-0.134	-0.175
Beverages Industry	0.062	0.003	0.066	0.008
Chemicals Industry	0.124	0.057	0.112	0.057
Consumer goods Industry	0.074	0.017	0.109	0.033
Entertainment Industry	0.073	-0.004	0.067	-0.002
Food Industry	-0.028	-0.076	-0.008	-0.066
Internet Industry	0.302***	0.335***	0.308***	0.335***
Manufacturing Industry	0.021	-0.046	0.006	-0.048
Oil and gas Industry	-0.133	-0.190*	-0.160	-0.196*
Pharmaceutical Industry	0.120	0.171	0.150	0.179
Semiconductors Industry	0.209*	0.232*	0.178	0.220*
Sports equipment Industry	0.019	-0.027	0.041	-0.017
Technology Industry				
Telecommunications Industry	-0.163	-0.080	-0.166	-0.086
Transportation Industry	-0.148	-0.166	-0.156	-0.168
Video games Industry	0.268**	0.348***	0.266**	0.342***
N	100	100	100	100
F-Value	2.494**	2.789***	2.445**	2.635***
R^2	0.372	0.414	0.382	0.415
Adjusted R^2	0.223	0.265	0.226	0.258

a. Dependent Variable: Performance

*** Significant at the 0.001 level (2-tailed).

** Significant at the 0.01 level (2-tailed).

* Significant at the 0.05 level (2-tailed).

5.2.1. Linear Regression comparing MNCs from developed vs developing countries

To test hypothesis 3, that compares firms from developed and developing countries, I include the interaction between the level of development and Marketing capability. This model (Model 5) presents a F-value of 2.879, with a p-value < 0.000. Model 5 has a R^2 of 0.451 and an adjusted R^2 of 0.295. As we can see in table 5, in which I present model 5, the level of country development acts as a moderator of the influence of marketing capability on performance of MNCs (coefficient of 0.209 and p-value < 0.05).

Table 5. Results of the Marketing capability moderator test.

	Model 5
R&D Capability	0.317*
Marketing Capability	0.056
Firm size	0.321**
Firm leverage	0.06
Level of country development	0.061
Aerospace Industry	-0.122
Automotive Industry	-0.183
Beverages Industry	0.078
Chemicals Industry	0.058
Consumer goods Industry	0.046
Entertainment Industry	0.009
Food Industry	-0.06
Internet Industry	0.347***
Manufacturing Industry	-0.048
Oil and gas Industry	-0.201*
Pharmaceutical Industry	0.188
Semiconductors Industry	0.222*
Sports equipment Industry	-0.004
Technology Industry	
Telecommunications Industry	-0.093
Transportation Industry	-0.16
Video games Industry	0.359***
Level of country development x Marketing capability	0.209*
N	100
F-Value	2.879***

R^2	0.451
Adjusted R^2	0.295

a. Dependent Variable: Performance

*** Significant at the 0.001 level (2-tailed).

** Significant at the 0.01 level (2-tailed).

* Significant at the 0.05 level (2-tailed).

To test hypothesis 4, that compares firms from developed and developing countries, I include the interaction between the level of development and R&D capability. This model (Model 6) presents a F-value of 2.809, with a p-value < 0.000. Model 6 has a R^2 of 0.445 and an adjusted R^2 of 0.287. As we can see in table 6, in which I present model 6, the level of country development acts as a moderator of the influence of R&D capability on performance of MNCs (coefficient of 0.181 and p-value < 0.05).

Table 6. Results of the R&D capability moderator test.

	Model 6
R&D Capability	0.314*
Marketing Capability	0.054
Firm size	0.317**
Firm leverage	0.046
Level of country development	0.060
Aerospace Industry	-0.129
Automotive Industry	-0.190
Beverages Industry	0.033
Chemicals Industry	0.048
Consumer goods Industry	0.028
Entertainment Industry	-0.003
Food Industry	-0.072
Internet Industry	0.346***
Manufacturing Industry	-0.056
Oil and gas Industry	-0.206*
Pharmaceutical Industry	0.185
Semiconductors Industry	0.226*
Sports equipment Industry	-0.016
Technology Industry	
Telecommunications Industry	-0.095
Transportation Industry	-0.165
Video games Industry	0.363***

Level of country development x R&D capability	0.181*
N	100
F-Value	2.809***
R^2	0.445
Adjusted R^2	0.287

a. Dependent Variable: Performance

*** Significant at the 0.001 level (2-tailed).

** Significant at the 0.01 level (2-tailed).

* Significant at the 0.05 level (2-tailed).

From the moderator tests presented, I can conclude that the level of development of the MNCs' country acts as a moderator of the relationship between the capabilities (marketing and R&D) and performance. That is, MNCs from developed countries experience a stronger influence of capabilities (marketing and R&D) on performance than MNCs from developing countries.

5.2.2. Comparison test of means

When testing the comparison of means between the two sets of firms one can see that this difference is significant for marketing capability at a 0.05 level of significance (Table 7).

Table 7. Results for the comparison test of means.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Performance	Between Groups	0.011	1	0.011	0.632	0.428
	Within Groups	1.781	98	0.018		
	Total	1.792	99			
R&D Capability	Between Groups	0.012	1	0.012	1.669	0.199
	Within Groups	0.733	98	0.007		
	Total	0.746	99			
Marketing Capability	Between Groups	0.040	1	0.040	3.983	0.049
	Within Groups	0.979	98	0.010		

	Total	1.019	99			

Source: Author.

Table 8 presents the descriptive statistics for both sets of MNCs.

Table 8. Results of the comparison test of means.

Descriptive Statistics									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Performance	Developing	10	0.0465	0.09493	0.03002	-0.0214	0.1144	-0.09	0.25
	Developed	90	0.0822	0.13819	0.01457	0.0533	0.1112	-0.75	0.35
	Total	100	0.0787	0.13455	0.01346	0.0520	0.1054	-0.75	0.35
R&D Capability	Developing	10	-0.0536	0.05985	0.01893	-0.0964	-0.0108	-0.18	0.00
	Developed	90	-0.0908	0.08875	0.00936	-0.1094	-0.0722	-0.39	0.00
	Total	100	-0.0871	0.08679	0.00868	-0.1043	-0.0699	-0.39	0.00
Marketing Capability	Developing	10	-0.0804	0.03574	0.01130	-0.1060	-0.0548	-0.14	-0.02
	Developed	90	-0.1469	0.10425	0.01099	-0.1687	-0.1251	-0.51	0.00
	Total	100	-0.1402	0.10143	0.01014	-0.1604	-0.1201	-0.51	0.00

Source: Author.

In table 9 I present a summary of the tested hypotheses.

Table 9. Results of the hypotheses.

Hypotheses	Relationship	Conclusion
Hypothesis 1: R&D Capability influences positively performance of MNCs.	Positive significant	Supported
Hypothesis 2: Marketing Capability influences positively performance of MNCs.	Not significant	Not supported
Hypothesis 3: Marketing capabilities have a more positive influence on performance of MNCs from developed countries than on performance of MNCs from developing countries.	Positive significant	Supported
Hypothesis 4: R&D capabilities have a more positive influence on performance of MNCs from developed countries than on performance of MNCs from developing countries.	Positive significant	Supported

Source: Author.

This page intentionally left blank.

6. Discussion and Conclusions

The literature has long advocated the need of firms to develop capabilities so as to promote performance. Even though initially the focus had been in capabilities of a technological nature, namely R&D capabilities, over the last two decades researchers have been calling out attention to other types of capabilities, such as Marketing capabilities. Both R&D and Marketing capabilities seem particularly relevant for firms with international operations, given that these firms deal with more turbulent and complicated environments. Still, whereas previous studies have tested these capabilities and their influence on performance, the predominant perspective is the developed country one. In this study I use data of both developed and developing countries, and examine the influence of R&D and marketing capabilities on MNC´s performance via linear regression. When examining the proposed model on the bundle of firms, I obtained statistical significance for a positive influence of R&D capability on performance, but not of Marketing capability. In addition, the level of development of the MNC's country appears to assume a moderating role in the relationship between Marketing capability and performance. In fact, marketing capability has a greater influence on the performance of MNCs from countries with higher levels of economic development (developed countries) rather than the ones from developing countries. This is additionally confirmed when performing a comparison of means test. These type of studies are important, because they uncover differences among MNCs from different economies (developing and developed), and demonstrate that researchers should try to comprehend this deeper. As expected, models that have been tested in developed economies may not completely apply to developing economies.

This study's findings confirm R&D capability's positive influence on performance of MNCs. This study complements earlier research that demonstrated that R&D expenditure improves a firm's performance (such as the study of Ehie & Olibe, 2010). R&D investment can be a way to improve a firm's performance through the development of new services and products, through the improvement of firm's response to environmental variations such as economic downturn (Jung, Hwang & Kim, 2018).

Unlike previous works, this study's results lack statistical significance in what regards the influence of marketing capability on performance. Cacciolatti, & Lee (2016) suggested the same hypothesis and it was partially supported, because they were measuring marketing capabilities not as a unique value, instead they were considering the values of each marketing capability separately (accountability, creativity and collaboration). Another possibility is the existence of a mediator. For instance, Murray et al. (2011) indicated that marketing capabilities mediate the effect of market orientation on performance. Also, Angulo-Ruiz, Donthu, Prior and Rialp (2018) suggested that marketing capability has a positive relationship with stock returns through the mediation of firm growth. Some other potential explanations for this finding may be the source of data used or even the measure used, marketing expenditure, a proxy for marketing capabilities. If we consider for instance, the work of authors such as Morgan et al. (2009b), they have found support for the positive influence of Marketing capability on performance, but they used structural equation models (SEM), primary data source, and for the marketing capability variable used seven distinct market-related capabilities (product development, pricing, channel management, marketing communications, selling, market planning, and marketing implementation).

Comparing the influence that marketing capability has in developed countries vs developing countries, the results suggest that marketing capability has a greater influence on MNC´s performance in countries with higher levels of economic development. This greater influence of marketing becomes when economic development is more advanced may be due to the assistance of economic development in permitting market-based capabilities to operate efficiently (Wu, 2013). With the development of the economy, the purchasing power of consumer rises, and consumer predilections vary (Wu, 2013). This finding gives wide support for the conceptual model and for the importance of including developed and developing countries when describing the relationship between marketing capability and performance. Earlier researches on Marketing capability (Kotabe et al., 2002) were performed in Western countries, especially in the United States, and not enough consideration has been paid to developing countries (Steenkamp, 2005). Developing countries show substantial departures from the assumptions of theories developed for Western economies, and offer natural laboratories to test those theories' assumptions and underlying mechanisms and to generalize their discoveries and recognize limit situations (Burgess & Steenkamp, 2006). As such, this study expands earlier scholarly research on this subject by considering the level of development of MNCs' countries.

Comparing the influence that R&D capability has in developed countries vs developing countries, the results suggest that R&D capability has a greater influence on MNC´s performance in developed countries. This is basically because the characteristics of socio-economic environment in which the firm works are also likely to influence the innovation; these characteristics involve access to finance, the quality of institutional setting and country specific cultural values (Hashi & Stojcic, 2013). Several researches have stated that access to finance for innovation activities, is a critical determinant of the innovation process (Klomp & Van Leeuwen, 2001; Kemp, Folkeringa, de Jong & Wubben, 2003).

While this study brings new light into some issues, namely how the level of country development moderates the influence of capabilities in performance, it has limitations. First, the model proposed is not exhaustive in terms of variables considered. This study focused on only two types of capabilities, R&D and Marketing. Future studies may test additional capabilities, such as operational capabilities or even management capabilities, for instance. The study of variables other than R&D and marketing provides a favourable way for future study to provide a more comprehensive image of the management of MNC's performance in the framework of their international business efforts. Second, the study uses secondary data, particularly expenditures on R&D and Marketing as proxy for firms' R&D and Marketing capabilities. That may, in fact, be a possible explanation to why Marketing capability influence on performance lacked significance, unlike what occurred in previous studies. Future research may benefit from examining the model using primary data and/or multi-item measures. Specifically in what regards Marketing capability, the measure can be extended to incorporate other marketing resources, such as intermediary efforts, or marketing-specific end outcomes, such as customer service and channel equity (Srivastava et al., 2001).

Future researchers can use longitudinal methods and observe the lagged effect of R&D and marketing capabilities on performance. As R&D activities and marketing activities could take numerous years to generate financial benefits, this is an interesting path to examine (Kotabe et al., 2002). Lagging the R&D activities and the marketing activities in some intervals when assessing the model indirectly undertakes that the R&D spending and marketing spending will uniformly have an influence after this amount of intervals (Kotabe et al., 2002). This assumption hides the point that several projects could take longer to

generate outcomes while several other projects could generate financial returns in less time (Kotabe et al., 2002).

My research aimed to examine the influence of two types of capabilities on performance and to identify the role of the level of country development in this regard. I tested R&D and marketing capabilities of MNCs. R&D has a positive impact on performance whereas Marketing is not significant. The tested moderator, level of country development, confirmed its moderating role. Marketing capability of MNCs from developed countries will have a stronger positive influence on performance. Overall, this study is an additional step toward a better understanding of the impact of capabilities on performance considering firms from distinct level of development backgrounds. I hope that this study will encourage further research on developing economies and testing the existing models in these settings. Thus, it is needed more theoretical and empirical research in this regard.

Bibliographic References

Ackoff, R. L., & Emshoff, J. R. (1975). Advertising research at Anheuser-Busch, Inc. *MIT Sloan Management Review*, **16**(2), 1-15.

Aiken, L.S., West, S.G. & Reno, R.R. (1991). Multiple regression: Testing and interpreting interactions. Sage Publications, CA, Thousand Oaks.

Alexander, K., & Satish, J. (2008). The relative impact of marketing, research-and-development, and operations capabilities on firm performance. *Journal of Marketing*, **72**(4), 1-11.

Amit, R., & Schoemaker, P. J. H. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, **14**(1), 33-46.

Anand, J., & Delios, A. (2002). Absolute and relative resources as determinants of international acquisitions. *Strategic Management Journal*, **23**(2), 119-134.

Angulo-Ruiz, F., Donthu, N., Prior, D., & Rialp, J. (2018). How does marketing capability impact abnormal stock returns? The mediating role of growth. *Journal of Business Research*, **82**, 19-30.

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

Bahadir, C., Bharadwaj, S., & Srivastava, R. (2008). Financial value of brands in mergers and acquisitions: Is value in the eye of the beholder?. *Journal of Marketing*, **72**(November), 49-64.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, **17**, 99-120.

Barney, J. B. (1997). *Gaining and sustaining competitive advantage*. Reading, MA: Addison-Wesley.

Bell, M. (1984). Learning and the accumulation of industrial technological capacity in developing countries. In: Fransman, King, K. (Eds.), Technological Capability in the Third World. *Macmillan*, London, 187-209.

Berry, H., Guillén, M., & Zhou, N. (2010). An institutional approach to cross-national distance. *Journal of International Business Studies*, **41**(9), 1460-1480.

Bhaird, C. M. (2010). *Resourcing small and medium sized enterprises*. Springer Verlag: Berlin, 2010.

Bharadwaj, S., Varadarajan, P., & Fahy, J. (1993). Sustainable competitive advantage in service industries: A conceptual model and research propositions. *Journal of Marketing*, **57**(October), 83-99.

Blažek, J., Žížalová, P., Rumpel, P., Skokan, K., & Chládek, P. (2013). Emerging regional innovation strategies in Central Europe: institutions and regional leadership in generating strategic outcomes. *European Urban and Regional Studies*, **20**(2), 275-294.

Boutellier, R., Gassmann, O., & Zedtwitz, M. (1999). *Managing Global Innovation: Uncovering the Secrets of Future Competitiveness*. Berlin: Springer.

Brown, R., Gregson, G., & Mason, C. (2016). A post-mortem of regional innovation policy failure: Scotland's Intermediate Technology Initiative (ITI). *Reg. Stud*, **50**(7), 1260-1272.

Bruni, D., & Verona, G. (2009). Dynamic Marketing Capabilities in Science-Based Firms: An Exploratory Investigation of the Pharmaceutical Industry. *British Journal of Management*, **20**(1), 101-17.

Burgess, S., & Steenkamp, J. (2006). Marketing renaissance: How research in emerging markets advances marketing science and practice. *International Journal of Research in Marketing*, **23**(4), 337-356.

Cacciolatti, L., & Lee, H. (2016). Revisiting the relationship between marketing capabilities and firm performance: The moderating role of market orientation, marketing strategy and organisational power. *Journal of Business Research*, **69**(12), 5597-5610.

Cantwell, J. (1989). *Technological Innovation and Multinational Corporations.* Basil Blackwell, Cambridge, MA.

Cantwell, J., & Mudambi, R. (2005). MNC Competence-Creating Subsidiary Mandates. *Strategic Management Journal*, **26**(12), 1109-1128.

Cantwell, J., & Vertova, G. (2004). Historical evolution of technological diversification. *Research Policy*, **33**(3), 511-529.

Capron, L., & Hulland, J. (1999). Redeployment of brands, sales forces, and general marketing management expertise following horizontal acquisitions: A resource-based view. *Journal of Marketing*, **63**, 41-54.

Carpenter, M. A., Sanders, W. G., & Gregersen, H. B. (2001). Bundling human capital with organizational context: the impact of international assignment experience on multinational firm performance and CEO pay. *Academy of Management Journal*, **44**(3), 493-511.

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

Caves, R. E. (1996). *Multinational enterprise and economic analysis*. 2 New York: Cambridge University Press.

Chakrabarty, S., & Wang, L. (2012). The Long-Term Sustenance of Sustainability Practices in MNCs: A Dynamic Capabilities Perspective of the Role of R&D and Internationalization. *Journal of Business Ethics*, **110**, 205-217.

Chan, S., Martin, J., & Kensinger, J. (1990). Corporate research and development expenditures and share value. *Journal of Financial Economics*, **26**, 2, 255-279.

Chen, X., & Wu, J. (2011). Do different guanxi types affect capability building differently? A contingency view. *Industrial Marketing Management*, **40**(4), 581-592.

Chiao, Y. C., Yang, K. P., & Yu, C. M. J. (2006). Performance, internationalization, and firm-specific advantages of SMEs in a newly-industrialized economy. *Small Business Economics*, **26**(5), 475-492.

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly*, **35**(1), 128-152.

Collis, D. J. (1991). A resource-based analysis of global competition: The case of the bearings industry. *Strategic Management Journal*, **12**(S1), 49-68.

Daniels, J. D., & Bracker, J. (1989). Profit performance: Do foreign operations make a difference. *Management International Review*, **29**(1), 46-56.

Danneels, E. (2007). The process of technological competence leveraging. *Strategic Management Journal*, **28**(5), 511-533.

Day, G. S. (1994). The capabilities of market-driven organizations. *Journal of Marketing*, **58**(4), 37-52.

Day, G., & Wensley, R. (1988). Assessing advantage: A framework for diagnosing competitive superiority. *Journal of Marketing*, **52**(2), 1-20.

Deligonul, Z., & Cavusgil, S. (1997). Does the comparative advantage theory of competition really replace the neoclassic theory of perfect competition?. *Journal of Marketing*, **61**(4), 65-73.

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

Delios, A., & Beamish, P. W. (2001). Survival profitability: The roles of experience and intangible assets in foreign subsidiary performance. *Academy of Management Journal*, **44**(5), 1028-1039.

Desarbo, W. S., Di Benedetto, C. A., Song, M., & Sinha, I. (2005). Revisiting the Miles and Snow strategic framework: Uncovering interrelationships between strategic types, capabilities, environmental uncertainty, and firm performance. *Strategic Management Journal*, **26**(1), 47-74.

Desarbo, W., Di Benedetto, C., Song, M., & Sinha, I. (2005). Revisiting the miles and snow strategic framework: uncovering interrelationships between strategic types,

capabilities, environmental uncertainty, and firm performance. *Strategic Management Journal*, **26**, 47-74.

Doremus, P. N., Keller, W. W., Pauly, L. W., & Reich, S. (1998). *The Myth of the Global Corporation*. Princeton: Princeton University Press.

Dunning J. H., & Lundan S. M. (2008). *Multinational Enterprises and the Global Economy, 2nd edn.* Cheltenham: Edward Elgar Publishing.

Dutta, S., Narasimhan, O., & Rajiv, S. (1999). Success in high-technology markets: Is marketing capability critical?. *Marketing Science*, **18**(4), 547-568.

Dutta, S., Zbaracki, MJ., & Bergen, M. (2003). Pricing process as a capability: a resource-based perspective. *Strategic Management Journal*, **24**(7), 615-630.

Ehie, I., & Olibe, K. (2010). The effect of R&D investment on firm value: an examination of US manufacturing and service industries. *Int. J. Prod. Econ*. **128**, 127-135.

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, **21**(10), 1105-1121.

Eisingerich, A. B., & Bhardwaj, G. (2011). Does social responsibility help protect a company's reputation?. *MIT Sloan Management Review*, **52**(3), 18.

Ernst, H. (2002). Success factors of new product development: a review of the empirical literature. *International journal of management reviews*, *4*(1), 1-40.

Feng, H., Morgan, N., & Rego, L. (2015). Marketing department power and firm performance. *Journal of Marketing*, **79**, 1-20.

Filatotchev, I., & Piesse, J. (2009). R&D, internationalization and growth of newly listed firms: European evidence. *Journal of International Business Studies*, **40**(8), 1260-1276.

Fortune Global 500 (2011). *Ranking of the world's 500 largest companies*. New York: Fortune Magazine.

Furman, J., Porter, M., & Stern, S. (2002). The determinants of national innovative capacity. *Research Policy*, **31**(6), 899-933.

Fusfeld, H. I. (1995). New global sources of industrial research. *Technology in Society*, **17**, 263-277.

Gellynck, X., Banterle, A., Kuhne, B., Carraresi, L., & Stranieri, S. (2012). Market orientation and marketing management of traditional food producers in the EU. *British Food Journal*, **114**(4), 481-499.

Geringer, J. M., Beamish, P. W., & DaCosta, R. C. (1989). Diversification strategy and internationalization: Implications for MNE performance. *Strategic Management Journal*, **10**(2), 109-119.

Geringer, J. M., Tallman, S., & Olsen, D. M. (2000). Product and international diversification among Japanese multinational firms. *Strategic Management Journal*, **21**(1), 51-80.

Gerybadze, A. (2004). Knowledge management, cognitive coherence, and equivocality in distributed processes in MNCs. *Management International Review*, **44**(3), 103-129.

Ghemawat P., & Hout Th. (2008). Tomorrow's global giants. Not the usual suspects. *Harvard Business Review*, **86**(11), 80-88.

Golovko, E., & Valentini, G. (2011). Exploring the complementarity between innovation and export for SMEs' growth. *Journal of International Business Studies*, **42**(3), 362-380.

Gomes, L., & Ramaswamy, K. (1999). An empirical examination of the form of the relationship between internationalization and performance. *Journal of International Business Studies*, **30**(1), 173-188.

Grant, R. M. (1987). Internationalization and performance among british manufacturing companies. *Journal of International Business Studies*, **18**(3), 79-89.

Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, 114-135.

Grant, R. M. (1996). Toward a knowledge based theory of the firm. *Strategic Management Journal*, **17**(Winter Special Issue), 109-122.

Grant, R. M., Jammine, A. P., & Thomas, H. (1988). diversity, diversification, and profitability among British manufacturing companies 1972-1984. *Academy of Management Journal*, **31**(4), 771-801.

Grewal, R., & Slotegraaf, R. J. (2007). Embeddedness of organizational capabilities. *Decision Sciences*, *38*(3), 451-488.

Guellec, D., & De La Potterie, B. (2001). The internationalization of technology analyzed with patent data. *Research Policy*, **30**(8), 1253-1266.

Gupta, A. K., & Govindarajan, V. (2000). Knowledge Flows within Multinational Corporations. *Strategic Management Journal*, **21**, 473-496.

Hagedoorn, J., & Cloodt, M. (2003). Measuring innovative performance: is there an advantage in using multiple indicators?. *Research Policy*, **32**(8), 1365-1379.

Hashi, I., & Stojcic, N. (2013). The impact of innovation activities on firm performance using a multi-stage model: evidence from the community innovation survey 4. *Research Policy*, **42**(2), 353-366.

Hedlund, G. (1986). The Hypermodern MNC - A Heterarchy. *Human Resource Management*, **25**(1), 9-35.

Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, **24**(10), 997-1010.

Helfat, CE. (1997). Know-how and asset complementarity and dynamic capability accumulation: the case of R&D. *Strategic Management Journal*, **18**(5), 339-360.

Henderson, R. M. & Cockburn, I. (1994). Measuring competence? Exploring firm effects in pharmaceutical research. *Strategic Management Journal, Summer Special Issue*, **15**, 63-84.

Hennart, J. F. (1991). *The transaction cost theory of the multinational enterprise*, in Pitelis C. & Sugden, R. (eds.). *The nature of the transnational firm*. London: Routledge, 81-115.

Hennart, J. F. (2009). Down with MNE-centric theories! Market entry and expansion as the bundling of MNE and local assets. *Journal of International Business Studies*, **40**, 1432-1454.

Hirschey, M. & Weygandt, J. (1985). Amortization policy for advertising and research and development expenditures. *Journal of Accounting Research*, **23**, 1,326-335.

Hitt, M. A., Hoskisson, R. E., & Kim, H. (1997). International diversification: Effects on innovation and firm performance in product-diversified firms. *Academy of Management Journal*, **40**(4), 767-798.

Horst, T. E. (1972). Firm and industry determinants of the decision to invest abroad. *Review of Economics and Statistics*, **54**(August), 258-266.

Hoskisson, R. E., Eden, L., Lau, C. M., & Wright, M. (2000). Strategy in emerging economies. *Academy of Management Journal*, **43**(3), 249-267.

Hsu, C. W., Chen, H., & Jen, L. (2008). Resource linkages and capability development. *Industrial Marketing Management*, *37*(6), 677-685.

Hufbauer, G. C. (1970). *The impact of national characteristics and technology on the commodity composition of trade in manufactured goods*. In Raymond Vernon, editor, *The technology factor in international trade*. New York: Columbia University Press. 145-231.

Hultman, M., Katsikeas, C., & Robson, M. (2011). Export Promotion Strategy and Performance: The Role of International Experience. *Journal of International Marketing*, **19**(4), 17-39.

Isaksen, A., & Trippl, M. (2017). Innovation in space: the mosaic of regional innovation patterns. *Oxf. Rev. Econ. Policy*, **33**(1), 122-140.

James, G., Witten, D., Hastie, T., & Tibshirani, R. (2013). *An Introduction to Statistical Learning*. Springer.

Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, **57**(July), 53-70.

Jensen, M. C. (1989). Eclipse of the public corporation. *Harvard Business Review*, **67**(5), 61-74.

Johanson, J., & Vahlne, J. (1990). The Mechanism of Internationalisation. International Marketing Review, 7(4), 11-24.

Ju, M., Zheng, K., Yong, G., & Jiangyong, L. (2013). Technological Capability Growth and Performance Outcome: Foreign Versus Local Firms in China. *Journal of International Marketing*, **21**(2), 1-16.

Jung, H., Hwang, J., & Kim, B. (2018). Does R&D investment increase SME survival during a recession?. *Technol. Forecast. Soc. Change*, **137**, 190-198.

Karna, A., Richter, A., & Riesenkampff, E. (2016). Revisiting the role of the environment in the capabilities‐financial performance relationship: A meta-analysis. *Strategic Management Journal*, **37**(6), 1154-1173.

Katsikeas, C.S. (2003), Advances in International Marketing Theory and Practice, *International Business Review* 12 (2), 135-140.

Katz, J. (1976). *Importación de tecnología, aprendizaje local e industrialización independiente.* fce, México.

Katz, J. (Ed.) (1987). *Technology Generation in Latin American Manufacturing Industries*. MacMillan Press Ltd., London.

Kemp, R., Folkeringa M., de Jong, J., & Wubben E. (2003). Innovation and firm performance. *Scales research reports*. Zoetermeer: EIM business and policy research (downloaded from http://www.ondernemerschap.nl/pdf-ez/H200207.pdf on 30 August 2012).

Kessler, A. (2007). Success factors for new businesses in Austria and the Czech Republic. *Entrepreneurship and Regional Development*, **19**(1), 381-403.

Ketchen Jr., D. J., Hult, G. T., & Slater, S. F. (2007). Toward greater understanding of market orientation and the resource based view. *Strategic Management Journal*, **28**(9), 961-964.

Kim, H., & Hoskisson, R. E. (2010). Does market-oriented institutional change in an emerging economy make business-group-affiliated multinationals perform better? An institution-based view. *Journal of International Business Studies*, **41**(7), 1141-1160.

Kim, N., Shin, S., & Min, S. (2016). Strategic Marketing Capability: Mobilizing Technological Resources for New Product Advantage. *Journal of Business Research*, **69**(12), 44-52.

Kim, W. C., Hwang, P. & Burgers, W. P. (1989). Global diversification strategy and corporate profit performance. *Strategic Management Journal*, **10**(1), 45-58.

Klomp, L., & Van Leeuwen, G. (2001). Linking innovation and firm performance: a new approach. *International Journal of the Economics of Business*, **3**, 343‑364.

Knight, G. A., & Cavusgil, S. T. (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies*, **35**(2), 124-141.

Kogut, B., & Zander, U. (1992). Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. *Management of Technology*, **3**(3), 383-397.

Kotabe, M. (1990a). Corporate product policy and innovative behavior of European and Japanese multinationals: An empirical investigation. *Journal of Marketing*, **54** (April): 19-33.

Kotabe, M. (1990b). The relationship between offshore sourcing and innovativeness of U.S. multinational firms: An empirical investigation. *Journal of International Business Studies*, **21**(4), 623-638.

Kotabe, M., Srinivasan, S., & Aulakh, P. (2002). Multinationality and firm performance: The moderating role of R&D and marketing capabilities. *Journal of International Business Studies*, **33**(1), 79-98.

Krasnikov, A., & Jayachandran, S. (2008). The relative impact of marketing, research-and-development, and operations capabilities on firm performance. *Journal of Marketing*, **72**(July), 1-11.

Krasnikov, A., & Jayachandran, S. (2008). The relative impact of marketing, research-and-development, and operations capabilities on firm performance. *Journal of Marketing*, **72**, 1-11.

Kumar, V., Venkatesan, R., & Reinartz, W. (2008). Performance implications of adopting a customer-focused sales campaign. *Journal of Marketing*, **72**, 50-68.

Lee, C. L., Wu, H. C. (2016). How do slack resources affect the relationship between R&D expenditures and firm performance?. *R&D Manag*, **46**, 958-978.

Lee, C., Wu, H. (2016). How do slack resources affect the relationship between R&D expenditures and firm performance?. R&D Management, **46**, 958-978.

Lee, R. P., Naylor, G., & Chen, Q. (2011). Linking customer resources to firm success: The role of marketing program implementation. *Journal of Business Research*, **64**, 394-400.

Lee, K. H., & Min, B. (2015). Green R&D for eco-innovation and its impact on carbon emissions and firm performance. *J. Clean. Prod*, **108**, 534-542.

Lo Nigro, G., Perrone, G., Chiapparrone, S. (2012). Governance forms drivers in bio-pharmaceutical inter-firm relationships. *International Journal of Production Economics*, **140**, 604-613.

Lu, J. W., & Beamish, P. W. (2001). The internationalization and performance of SMEs. *Strategic Management Journal*, **22**(6/7), 565-586.

Luo, X. (2008). When marketing strategy first meets wall street: Marketing spendings and firms' initial public offerings. *Journal of Marketing*, **72**(5), 98-109.

Madhavan, R., & Grover, R. (1998). From embedded to embodied knowledge: new product development as knowledge management. *Journal of Marketing*, **62**(4), 1-12.

Mansfield, E. (1981). Composition of R&D expenditures: Relationship to size of firm, concentration, and innovative output. *Review of Economics and Statistics*, **63**(November), 610-615.

Marôco, J. (2018). *Análise Estatística com o SPSS Statistics (7ma ed.)*. ReportNumber, Lda.

Martin, S. L., & Javalgi, R. (2016). Entrepreneurial orientation, marketing capabilities and performance: The moderating role of competitive intensity on Latin American international new ventures. Journal of Business Research, 69(6), 2040-2051.

Martin, X., & Salomon, R. (2003). Knowledge Transfer Capacity and Its Implication for the Theory of the Multinational Corporation. *Journal of International Business Studies*, **34**(4), 356-373.

Martínez-Román, J., Gamero, J., Delgado-González, M., & Tamayo, J. (2019). Innovativeness and internationalization in SMEs: An empirical analysis in European countries. *Technological Forecasting & Social Change*, **148**.

Mata, J., Fuerst, L., & Barney, J. (1995). Information technology and sustained competitive advantage: a resource-based analysis. MIS Quarterly: Management Information Systems, **19**(4), 487-505.

Maxwell (1987). *Adequate technological strategy in an imperfect economic context: a case study of the evolution of the acindar steel plant in Rosario, Argentina*. In: Katz, J. (Ed.), Technology Generation in Latin American Manufacturing Industries. MacMillan Press Ltd., London.

Mayrhofer, U. (2012). *Management of Multinational Companies: A French Perspective*. Basingstoke: Palgrave Macmillan.

Miles, J. (2005). *R Squared, Adjusted R Squared*. UK: Encyclopedia of Statistics in Behavioral Science.

Miller, D. (2003). An asymmetric-based view of advantage towards an attainable sustainability. *Strategic Management Journal*, **24**(10), 961-976.

Mizik, N., & Jacobson, R. (2003). Trading-off between value creation and value appropriation: The financial implications of shifts in strategic emphasis. *Journal of Marketing*, **67**(1), 63-76.

Moorman, C., & Rust, R. T. (1999). The role of marketing. *Journal of Marketing*, **63**, 180-197.

Morck, R., & Yeung, B. (1992). Internalization: An event study test. *Journal of International Economics*, **33**(1‐2), 41-56.

Morgan, N. A., Katsikeas, C. S., & Vorhies, D. W. (2012). Export marketing strategy implementation, export marketing capabilities, and export venture performance. *Journal of the Academy of Marketing Science*, **40**(2), 271-289.

Morgan, N. A., Slotegraaf, R., & Douglas, W. V. (2009a). Linking marketing capabilities with profit growth. *International Journal of Research in Marketing*, **26** (4), 284-93.

Morgan, N. A., Vorhies, D. W., & Mason, C. H. (2009b). Market orientation, marketing capabilities, and firm performance. *Strategic Management Journal*, **30**(8), 909-920.

Morgan, NA., Zou, S., Vorhies, DW., & Katsikeas, CS. (2003). Experiential and informational knowledge, architectural marketing capabilities, and the adaptive performance of export ventures. *Decision Sciences*, **34**(2), 287-321.

Murray, Y., Gao, Y., & Kotabe, M. (2011). Market orientation and performance of export ventures: The process through marketing capabilities and competitive advantages. *Journal of the Academy of Marketing Science*, **39**(2), 252-269.

Nath, P., Nachiappan, S., & Ramanathan, R. (2010). The impact of marketing capability, operations capability and diversification strategy on performance: A resource-based view. *Industrial Marketing Management*, **39**(2), 317-329.

Nelson, R. R. & Winter, S. G. (1982). *An evolutionary theory of economic change*. Harvard University Press, Cambridge, MA.

O'Cass, A., & Weerawardena, J. (2010). The effects of perceived industry competitive intensity and marketing-related capabilities: Drivers of superior brand performance. *Industrial Marketing Management*, *39*(4), 571-581.

Park, C. W., Eisingerich, A. B., & Park, J. W. (2013). Attachment-aversion (AA) model of customer–brand relationships. *Journal of Consumer Psychology*, **23**(2), 229-248.

Patel, P. (1995). Localized production of technology for global markets. *Cambridge Journal of Economics*, **19**, 141-153.

Patel, P., & Pavitt, K. (1991). Large firms in the production of the world's technology: an important case of 'non-globalization'. *Journal of International Business Studies*, **22**, 1-21.

Peng, M. W. (2003). Institutional transitions and strategic choices. *Academy of Management Review*, **28**(2), 275-296.

Peng, M. W., Wang, D. Y. L., & Jiang, Y. (2008). An institution-based view of international business strategy: A focus on emerging economies. *Journal of International Business Studies*, **39**(5), 920-936.

Penrose, E. (1959). *The theory of the growth of the firm*. Basil Blackwell, London.

Pestana, M., & Gageiro, J. (2005). *Análise de Dados para Ciências Sociais – A Complementaridade do SPSS*. Edições Sílabo.

Peteraf, M. A. (1993). The cornerstones of competitive advantage. *Strategic Management Journal*, **14**(3), 179-191.

Porter, M. E. (1986). *Competition in global industries*. Boston, Mass: Harvard Business School Press.

Prahalad, C. K., & Ramaswamy, V. (2000). Co-opting customer competence. *Harvard Business Review*, **78**(1), 79-87.

Qian, G., (2002). Multinationality, product diversification, and profitability of emerging us small-and medium-sized enterprises. *Journal of Business Venturing*, **6**(2), 44-51.

Rafiq, S., Salim, R., & Smyth, R. (2016). The moderating role of firm age in the relationship between R&D expenditure and financial performance: evidence from Chinese and US mining firms. *Econ. Modell*, **56**, 122-132.

Ramírez-Alesón, M., & Espitia-Escuer, M. A. (2001). The effect of international diversification strategy on the performance of Spanish-based firms during the period 1991‐1995. *Management International Review*, **41**(3), 291-315.

Ray, G., Barney, J. & Muhanna, W. (2004). Capabilities, business processes, and competitive advantage: Choosing the dependent variable in empirical tests of the resource based view. *Strategic Management Journal*, **25**, 23-37.

Ren, Sh., Eisingerich, A. B., & Tsai, H. (2015). How do marketing, research and development capabilities, and degree of internationalization synergistically affect the innovation performance of small and medium-sized enterprises (SMEs)? A panel data study of Chinese SMEs. *International Business Review*, **24**, 642-651.

Renko, M., Carsrud, A., & Brännback, M. (2009). The effect of a market orientation, entrepreneurial orientation, and technological capability on innovativeness: A study of young biotechnology ventures in the United States and in Scandinavia. *Journal of Small Business Management*, **47**(3), 331-369.

Roth, A., & Jackson, W. (1995). Strategic determinants of service quality and performance: Evidence from the banking industry. *Management Science*, **41**(11), 1720-1733.

Rugman A. M. (2005). *The Regional Multinationals. MNEs and 'Global' Strategic Management.* Cambridge: Cambridge University Press.

Rust, R. T., Ambler, T., Carpenter, G. S., Kumar, V., & Srivastava, R. K. (2004a). Measuring marketing productivity: Current knowledge and future directions. *Journal of Marketing*, **68**(4), 76-89.

Rust, R. T., Lemon, K. N., & Zeithaml, V. A. (2004b). Return on marketing: Using customer equity to focus marketing strategy. *Journal of Marketing*, **68**(January), 109-127.

Selnes, F., & Sallis, J. (2003). Promoting relationship learning. *Journal of Marketing*, **67**(3), 80-95.

Shah, D., Rust, R. T., Parasuraman, A., Staelin, R., & Day, G. S. (2006). The path to customer centricity. *Journal of Service Research*, **9**(2), 113-124.

Sheng, S., Zhou, K., & Li, J. (2011). The Effects of Business and Political Ties on Firm Performance: Evidence from China. *Journal of Marketing*, **75**(1), 1-15.

Shin, N., Kraemer, K. L., Dedrick, J. (2017). R&D and firm performance in the semiconductor industry. *Ind. Innovat*, **24**, 280-297.

Silverman, B. S. (1999). Technological resources and the direction of corporate diversification: towards an integration of resource-based view and transaction cost economics. *Management Science*, **45**(8), 1109-1124.

Simonin, B. L. (1999). Transfer of marketing know-how in international strategic alliances: An empirical investigation of the role and antecedents of knowledge ambiguity. *Journal of International Business Studies*, **30**(3), 463-490.

Song, M., Droge, C., Hanvanich, S., & Calantone, R. (2005). Marketing and technology resource complementarity: An analysis of their interaction effect in two environmental contexts. *Strategic Management Journal*, **26**(3), 259-276.

Sougiannis, T. (1994). The accounting based valuation of corporate R&D. *The Accounting Review*, **69**(1), 44-68.

Sriram, V., & Sapienza, H. J. (1991). An empirical investigation of the role of marketing for small exporters. *Journal of Small Business Management*, **29**(4), 33-43.

Srivastava, R. K., Fahey, L., & Christensen, H. K. (2001). The resource-based view and marketing: The role of market-based assets in gaining competitive advantage. *Journal of Management*, **27**(6), 777-802.

Srivastava, R., & Reibstein, D. (2005). *Metrics for Linking Marketing to Financial Performance*. Cambridge, MA: Marketing Science Institute.

Stafford, D. C., Purkis, R. H., & Stopford, J. M. (1989). *The directory of multinationals*. New York: Stockton Press.

Steenkamp, J. (2005). Moving out of the US silo: A call to arms for conducting international marketing research. *Journal of Marketing*, **69**(4), 6-8.

Tallman, S., & Faldmoe-Lindquist, K. (2002). Internationalization, globalization, and capability-based strategy. *California Management Review*, **45**(1), 116-135.

Tallman, S., & Li, J. (1996). Effects of international diversity and product diversity on the performance of multinational firms. *Academy of Management Journal*, **39**(1), 179-96.

Teitel, S. (1987). *Towards an understanding of technological change in semi-industrialized countries.* In: Katz, J. (Ed.), Technology Generation in Latin American Manufacturing Industries. MacMillan Press Ltd, London.

Tellis, G. J., Eisingerich, A. B., Chandy, R. K., & Prabhu, J. C. (2008). *Competing for the future: Patterns in the global location of R&D centers by the world's largest firms*. *ISBM Report 06-2008*. University Park, PA: Institute for the Study of Business Markets.

Theodosiou, M., Kehagias, J., & Katsikea, E. (2012). Strategic orientations, marketing capabilities and firm performance: An empirical investigation in the context of frontline managers in service organizations. *Industrial Marketing Management*, **41**(7), 1058-1070.

Tödtling, F., Skokan, K., Höglinger, C., Rumpel, P., & Grillitsch, M. (2013). Innovation and knowledge sourcing of modern sectors in old industrial regions: comparing software firms in Moravia-Silesia and Upper Austria. *European Urban and Regional Studies*, **20**(2), 188-205.

Tsai, H., & Eisingerich, A. B. (2010). Internationalization strategies of emerging markets firms. *California Management Review*, **53**(1), 114-135.

UNCTAD (2011). *World Investment Report. Non-Equity Modes of International Production and Development*. New York/Geneva: United Nations Conference on Trade and Development.

Verhoef, P. C., & Leeflang, P. S. H. (2009). Understanding the marketing department's influence within the firm. *Journal of Marketing*, **73** (March), 14-37.

Vernon, R. (1966). International investment and international trade in product cycle. *Quarterly Journal of Economics*, **LXXX**(2), 190-207.

Vorhies, D. W., & Morgan, N. A. (2005). Benchmarking marketing capabilities for sustainable competitive advantage. *Journal of Marketing*, **69**(1), 80-94.

Vorhies, D. W., Morgan, R. E., & Autry, C. W. (2009). Product-market strategy and the marketing capabilities of the firm: Impact on market effectiveness and cash flow performance. *Strategic Management Journal*, **30**(12), 1310-1334.

Wade, M., & Hulland, J. (2004). The resource-based view and information systems research: review, extension, and suggestions for future research. *MIS Quarterly: Management Information Systems*, **28**(1), 107-142.

Wadhwa, A., & Kotha, S. (2006). Knowledge creation through external venturing: Evidence from the telecommunications equipment manufacturing industry. *Academy of Management Journal*, **49**, 819-835.

Wan, C. C. (1998). International diversification, industrial diversification and firm performance of Hong Kong MNCs. *Asia Pacific Journal of Management*, **15**(2), 205‑217.

Wang, C., & Kafouros, M. (2009). What factors determine innovation performance in emerging economies? Evidence from China. *International Business Review*, **18**(6), 606-616.

Weerawardena, J., & O'Cass, A. (2004). Exploring the characteristics of the market-driven firms and antecedents to sustained competitive advantage. *Industrial Marketing Management*, 33 (5), 419-428.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, **5**(2), 171-180.

Wernerfelt, B. (2011). The use of resources in resource acquisition. *Journal of Management*, **37**, 1369-1373.

Westphal, L., Kim, L., & Dahlman, C. (1985). Reflections on the Republic of Korea's acquisition of technological capability. In: Frischtak, N. (Ed.), International Technology. Praeger Publishers, New York.

Winter, S. G. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, **24**(10), 991-995.

Winter, S. J. (2000). The satisficing principle in capability learning. *Strategic Management Journal*, **21**(10–11), 981-996.

World Economic Situation and Prospects (WESP) report (2015). *Country classification*. United Nations. https://www.un.org/development/desa/dpad/document_gem/global-economic-monitoring-unit/world-economic-situation-and-prospects-wesp-report/

Worren, N., Moore, K., & Cardona, P. (2002). Modularity, strategic flexibility, and firm performance: A study of the home appliance industry. *Strategic Management Journal*, **23**(12), 1123-1140.

Wu, J. (2013). Marketing capabilities, institutional development, and the performance of emerging market firms: A multinational study. *Intern. J. of Research in Marketing*, **30**, 36-45.

Wu, J., & Chen, X. Y. (2012). Leaders' social ties, knowledge acquisition capability and firm competitive advantage. *Asia Pacific Journal of Management*, **29**(2), 331-350.

Zhao, H., & Li, H. (1997). R&D and export: An empirical analysis of Chinese manufacturing firms. *Journal of High Technology Management Research*, **8**(1), 89-105.

Zhou, L., & Wu, A. (2014). Earliness of internationalization and performance outcomes: Exploring the moderating effects of venture age and international commitment. *Journal of World Business*, **49**, 132-142.

Zhou, L., Wu, A., & Barnes, B. R. (2012). The effects of early internationalization on performance outcomes in young international ventures: The mediating role of marketing capabilities. *Journal of International Marketing*, **20**(4), 25-45.

This page intentionally left blank.

Appendices

Table A 1. MNC name, country and industry.

Item	MNC Name	Country	Industry
1	3M	USA	Consumer goods
2	Ajinomoto	Japan	Food
3	Acer Inc	Taiwan	Technology
4	Activision Blizzard	USA	Video games
5	Advanced Micro Devices	USA	Semiconductors
6	Airbus	France	Aerospace
7	Akzo Nobel	Netherlands	Chemicals
8	Alfa Laval	Sweden	Manufacturing
9	Alibaba Group	China	Technology
10	Alstom	France	Transportation
11	Amazon	USA	Technology
12	Apple	USA	Technology
13	Asus	Taiwan	Technology
14	Atari	France	Video games
15	Basf	Germany	Chemicals
16	Bayer	Germany	Chemicals
17	Bombardier Inc	Canada	Aerospace
18	Bridgestone	Japan	Automotive
19	British Petroleum	UK	Oil and gas
20	Canon Inc	Japan	Technology
21	Casio	Japan	Technology
22	Carlsberg Group	Denmark	Beverages
23	Caterpillar Inc	USA	Automotive
24	China Mobile	China	Telecommunications
25	Cisco Systems	USA	Technology
26	Cummins	USA	Automotive
27	Daimler AG	Germany	Automotive
28	Danone SA	France	Food
29	Diageo	UK	Beverages
30	eBay	USA	Technology
31	Electronic Arts	USA	Video games
32	Embraer	Brazil	Aerospace
33	Ericsson	Sweden	Telecommunications
34	Facebook Inc	USA	Internet

35	Foxconn	Germany	Technology
36	Fujifilm	Japan	Technology
37	Garmin	USA	Technology
38	Giant Bicycles	Taiwan	Manufacturing
39	Glaxo Smith Kline	UK	Pharmaceutical
40	GoDaddy	USA	Technology
41	GoPro	USA	Technology
42	Hasbro	USA	Entertainment
43	Henkel	Germany	Consumer goods
44	Hewlett Packard Enterprise	USA	Technology
45	Honda	Japan	Automotive
46	HTC	Taiwan	Telecommunications
47	Hyundai Motor Company	South Korea	Automotive
48	IBM	USA	Technology
49	Johnson & Johnson	USA	Pharmaceutical
50	Kawasaki	Japan	Automotive
51	Lenovo	China	Technology
52	Leoni AG	Germany	Manufacturing
53	Linde	Germany	Chemicals
54	L'Oreal	France	Consumer goods
55	LyondellBasell Industries	USA	Chemicals
56	MediaTek	Taiwan	Semiconductors
57	Michelin	France	Automotive
58	Microsoft	USA	Technology
59	Motorola	USA	Telecommunications
60	Nestle	Switzerland	Food
61	NetApp Inc	USA	Technology
62	Nokia	Finland	Telecommunications
63	Novartis	Switzerland	Pharmaceutical
64	Oracle Corporation	USA	Technology
65	Parrot	Germany	Technology
66	Puma	Germany	Sports equipment
67	Pfizer	USA	Pharmaceutical
68	Philips	Netherlands	Technology
69	Qualcomm	USA	Telecommunications
70	Reckitt Benckiser	UK	Consumer goods
71	Royal Dutch Shell	Netherlands	Oil and gas
72	Saab AB	Sweden	Aerospace
73	Samsung Electronics	South Korea	Technology

74	Sanford L.P.	USA	Chemicals
75	San Miguel Corporation	Philippines	Beverages
76	Sandvik	Sweden	Manufacturing
77	Sanofi Aventis	France	Pharmaceutical
78	SAP SE	Germany	Technology
79	Schlumberger	USA	Oil and gas
80	Schindler Group	Switzerland	Transportation
81	Spin Master	Canada	Entertainment
82	Seagate Technology	USA	Technology
83	Sega Sammy Holdings	Japan	Entertainment
84	Siemens	Germany	Technology
85	Sogou	China	Technology
86	TCL Corporation	China	Technology
87	Technicolor	France	Entertainment
88	Texas Instruments	USA	Semiconductors
89	TomTom	Netherlands	Technology
90	TSMC	Taiwan	Semiconductors
91	Twitter	USA	Internet
92	Uber	USA	Transportation
93	UMC	Taiwan	Semiconductors
94	Unilever	Netherlands	Consumer goods
95	Ubisoft	France	Video games
96	Unisys	USA	Technology
97	Volvo	Sweden	Automotive
98	Vestel	Turkey	Technology
99	Xiaomi Corporation	China	Technology
100	ZTE	China	Telecommunications

Source: https://www.morningstar.com/