International diversification and performance in European service multinational companies

INTERNATIONAL DIVERSIFICATION AND PERFORMANCE IN EUROPEAN SERVICE MULTINATIONAL COMPANIES

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Abstract

The relationship between international diversification and firm performance has been extensively studied in the international strategy literature, which generally assumed that the performance of a firm improves with greater multinationality. The majority of these studies were based on manufacturing firms. However, recent empirical studies have shown different impact on performance in particular with regard to service multinationals (SMNCs). In this paper we provide an empirical evidence that support the existence of a U-shaped curvilinear relationship between multinationality and performance. In addition, we found that R&D intensity significantly strengthen the impact of internationalization on firm performance. We tested this on cross sectional data of 92 European SMNCs from Global Top 500 Multinationals (Fortune) belonging to ten service industries. Based on these findings, SMNCs managers need to rethink and carefully implement their global marketing strategies and their international activities in order to maximize their overall performances.

Keywords: *international diversification, multinationality, MNEs performance, service, service multinationals, R&D intensity.*

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Introduction

One of the most noteworthy aspects of today's international business (IB) landscape is the growing importance of service multinationals (SMNCs). As the services sector expands, the prominence of SMNCs in producing and delivering value-creating services across national borders continues to grow more than ever before. (UNCTAD, 2012). Over the past 50 years, the importance of services has grown steadily; it is possible to find out three different waves with different characteristic (Kundu & Merchant, 2008). The first wave of SMNC's growth (1960 to 1980) involved firms like Citi Bank, Price Waterhouse and Saatchi & Saatchi and came in response to international expansion of their manufacturing MNCs' clients. The second wave (1980 to 1990) represented the internationalization of service firms in certain sectors, such as telecommunications, when services firms ventured abroad in search of "new" markets. The third wave (1990 to present) in the internationalization of service firms came in response to the liberalization, deregulation, and privatization taking place in the service sector in developing countries.

In this context, one important topic for researchers in strategic management and international business has been the investigation of the relationship between international diversification and performance (e.g., Tallman & Li, 1996; Hitt et al., 1997; Gomes & Ramaswamy, 1999; Kotabe et al., 2002; Tsai, 2013). International diversification represents an important growth strategy (Chandler, 1962; Ansoff, 1965) that has major potential impact on firm performance. Despite the numerous studies that have examined the association between multinationality and performance, these efforts have provided evidence of conflicting results (Annavarjula & Beldona, 2000; Contractor *et al.*, 2003). However, studies examining the international diversification-performance relationship were based largely on samples of manufacturing firms. Thus it is likely that the form of the relationship between international diversification and performance observed in manufacturing firms might not apply similarly to firms in

service industries. In fact, some studies based on a sample of services firms have already argued that there exist an U-shaped curvilinear relationship (Capar & Kotabe, 2003) or a S-shaped relationship (Contractor *et al.*, 2003; Tsai, 2013).

In general, service firms are expanding internationally for the same reasons as the manufacturing firms: labor costs, market access, and resources, among others (Guile, 1988; Kundu & Merchant, 2008). However, SMNCs differ from their manufacturing counterparts, along crucial business dimensions such as birth, growth, evolution, performance and sustenance (Kundu & Merchant, 2008). Moreover, the nature of service businesses is mostly intangible and the production and consumption of many services occur simultaneously owing to the impossibility of inventory in services (Habib & Victor, 1991).

Summarizing, previous studies extensively examine this issue, but they suffer from three main problems. First, there is no consensus on the shape of the relationship between a firm's internationalization and its performance. Second, usually the sample using in these studies are composed by manufacturing firms. Third, researchers have made little effort to identify the factors that play a critical role in moderating the relationship between internationalization and performance, in particular regarding service firms.

In this paper, we argue that the earlier theoretical rationale used to explain the relationship between multinationality and performance in manufacturing firms needs to be somewhat modified to account for the differences inherent to service firms (Capar & Kotabe, 2003). Our goal is to find out the form of this relationship in "top" SMNCs and to find out the existence of a moderating effect regarding firms with high level of R&D expenditure. So, it addresses the following two questions: (1) what is the relationship between internationalization and performance for top SMNCs? (2) may R&D intensity in service SMNCs influences and moderates this relationship?

Thus, this work improves knowledge in to the stream of literature that refers to the internationalizion of multinational companies by highlighting the form of the relationship between internationalization and performance in a relevant sample of top SMNCs and also empirically supporting the direct and interacting effects of R&D intensity on firm performance in the process of internationalization.

The remainder of the paper is organized as follows. First, a theoretical background and literature review of the SMNCs and of the international diversification–performance relationship will be provided. Second, this paper develops a conceptual framework and presents the research hypotheses. Third, the research methods of the study and the variables used will be explained. Fourth, the results will be presented and discussed. Finally, a review of the study will be provided in the conclusion section along with the identification of limitations and possible future directions of inquiry.

Theoretical Background and Relevance

Services MNCs

As early as the 1980s, scholars such as Daniels (1982) and Riddle (1986) examined the growing importance of services founding some demand and supply led factors. Dunning (1989) stated that these factors favored FDI as a modality for organizing the cross-border production and transaction of these services. Consequently, MNCs share of total services activities undertaken increased rapidly. Aharoni (2000) noted that an important manifestation of the changing nature of the global economy was the increasing importance of service sector as a percentage of gross national product in both developed and developing economies

The state of SMNC research was summed up by Kundu and Merchant (2008), who observed that the "the challenge lies ahead in the development of theories of service multinational enterprise to explain the intricacies of service firms". The importance and contribution of services and SMNCs in IB caught the attention of scholars almost a quarter of a century ago (Boddewyn *et al.*, 1986, Dunning, 1989, Erramilli, 1990). Over time, researchers have attempted to draw on various theories, traditionally used for the manufacturing sector, to explain competitiveness and internationalization of SMNCs. In the 1970s and 1980s the eclectic paradigm and transaction cost theory has been widely used to explain the internationalization of SMNCs, while in the 1990s and onwards scholars have looked into organizational capability perspective, sequential investment theory and contingency theory to explain the internationalization and performance issues of service firms.

An examination of the literature revealed certain thematic issues namely - international entry mode for service firms (Erramilli & Rao, 1993); determinants of internationalization for industry based studies of service firms located in industrialized nations (Dunning, 1993); the determinants of foreign direct investment (Li & Guisinger, 1992); sourcing strategies of SMNCs (Murray & Kotabe, 1999); spatial and economic geography issues faced by SMNCs (Zaheer & Manrakhan, 2001) and, finally, studies examining the relationship between multinationality/geographic diversification and firm performance (Capar & Kotabe, 2003; Contractor *et al.*, 2003). However, compared to studies in the manufacturing sector, empirical examination in the services sector has continued to remain grossly inadequate. The latter one is the focus of our paper.

<u>International diversification and performance in SMNCs</u>

The relationship between international diversification and performance has been widely analyzed drawing on the resource or knowledge-based view of the firm in strategic management (Barney, 1991; Kogut & Zander, 1993), and on internalization theory in the FDI-

based international business literature (Buckley & Casson, 1976; Hymer, 1976). Mainstream studies support the view that a positive, linear relationship exists between international-diversity and performance (see for example the studies of Grant et al., 1988; Han et al., 1998).

These studies has been grounded on the theoretical assumption that firms exploit the benefits of internalization in international markets (Hymer, 1976; Rugman, 1981; Caves, 1982). Internalization of markets has advantages such as economies of scale, scope, and learning (Kogut, 1985; Ghoshal, 1987; Kim *et al.*, 1989, 1993), and sharing core competencies among different business segments and geographic markets (Hamel, 1991). In addition, firms with strong competencies that are developed at home can utilize these in international markets (Bartlett & Ghoshal, 1989). Moreover, multinational firms can gain additional competitive advantages by exploiting market imperfections (such as a less competitive environment) and cross-border transactions (such as transfer pricing) and can also achieve a greater bargaining power with increased size (Sundaram & Black, 1992). In addition, other advantages derive from greater learning or international experience (Kobrin, 1991); access to cheaper and idiosyncratic resources in foreign countries (Porter, 1990); global scanning of rivals, markets, and other profit opportunities and from better cross-subsidization, price discrimination, and arbitrage potential with larger geographic scope (Contractor *et al.*, 2003).

Despite this, another stream of research has examined a nonlinear relationship between multinationality and performance (Tallman & Li, 1996; Hitt *et al.*, 1997; Gomes & Ramaswamy, 1999; Kotabe *et al.*, 2002). According to transaction cost theory, a high level of diversification increases the governance cost of firms (Williamson, 1975); so, these studies have found an inverse U-shaped relationship between multinationality and firm performance, where performance increases up to a certain point, and then levels off. It has been argued that factors such as logistics, trade barriers, cultural diversity but also environmental factors, might increase the cost of operations along with increasing levels of international diversity.

The problems of the majorities of these empirical studies were they are based mainly on a sample of manufacturing MNEs. In fact, despite the similar motivations of SMNCs to expand internationally, the unique characteristics of service firms are likely to lead to a different pattern with respect to performance (Capar & Kotabe, 2003). Service companies, contrary to manufacturing firms, are likely to face declining performance with initial attempts at international diversification for the following reasons.

First, it is more difficult for SMNCs to benefit from scale economies and, also, suffer from diseconomies of sale in the short period (Katrishen & Scordis, 1998). Ghoshal (1987) suggests that, as firms further increase their total involvement in foreign markets, they may benefit from economies of scope and economies of scale in the long run. Second, an initial problem in the internationalization expansion is the costs of acquiring foreign market knowledge (Johanson & Vahlne, 1977; Del Giudice et al., 2010; Maggioni and Del Giudice, 2011) and the initial costs of a foreign firm establishing its legitimacy abroad (Zaheer & Mosakowski, 1997). After these initial costs, SMNCs may benefit from the advantages of internationalization, such as price discrimination, strategic cross-subsidization, arbitrage and so on (Contractor, 2002). Third, services supplied by multinational firms to local customers may have to be adapted more extensively than manufactured products owing to linguistic and cultural differences of the customers along with the intangible nature of most services (Capar & Kotabe, 2003). It has been argued that service firms suffer from diseconomies of scale when they expand abroad (Katrishen & Scordis, 1998). In fact, when a service firm makes an initial expansion abroad, it must undertake considerably higher investments than manufacturing firms that begin foreign expansion by exporting (Capar & Kotabe, 2003). Such investments are likely to increase the costs and thereby reduce the performance of these firms (Boddewyn *et al.*, 1986). The aforementioned arguments can be summarized in the following hypothesis:

Hypothesis 1: The relationship between international diversification and performance in SMNCs will be U-shaped curvilinear, with performance decreasing up to a certain point, beyond which higher levels of international diversification will increase performance.

From this starting points, Contractor et al. (2003), using pooled cross-section/time series data, proposed a new unified three-stage theory of international expansion that incorporates different concepts in a sigmoid hypothesis (S-shaped relationship). This study has also been confirmed by Tsai (2013) analyzing advanced emerging markets. It has been argued that the relationship between international diversification and performance varies depending on the different stage in which the firms are. In the first stage (early internationalizes) firms suffer from liability of foreignness (Verbeke, 2009; Ferraris, 2014), initial learning costs because of unfamiliarity with foreign markets, cultures and environments and insufficient economies of scale and a negative slope may emerge (Johanson & Vahlne, 1977). In the second stage (mid-stage internationalizes) firms gain classical internationalization benefit (Contractor, 2002) such as an increasing the efficiency, the ability to exercise global market power (Grant, 1987), but also to extend the product cycle (Vernon, 1966) and to better arbitrage national differences (Rugman, 1981) and performance increase. At the end, in the third stage of internationalization the firms expand beyond a desirable optimum level. For such firms, the incremental costs of further expansion into peripheral nations are greater than the incremental benefits. This is due in particular to: a) after having expanded in the most lucrative market, the firm is then left with minor or peripheral markets with lower profit potential; b) beyond an optimum number of nations, the growth of coordination and governance costs may exceed the benefits of further expansion, because of the complexity of global operations (Galbraith & Kazanjian, 1986). The aforementioned arguments can be summarized in the following hypothesis:

Hypothesis 2: The relationship between international diversification and performance in SMNCs will be S-shaped curvilinear, with performance that follow three different internationalization's stages, showing at the beginning a short negative slope, then up to a certain point a positive slope, beyond which higher levels of international diversification will decrease performance.

R&D intensity as a moderating effect of the relationship

Firms with intangible assets should be able to generate abnormal high returns from their foreign direct investments through scale and scope economies and through the exploitation of market imperfections in the trade of intangible assets (Kotabe *et al.*, 2002).

In particular, R&D intensity reflect the abilities to design unique products and improve product quality, but also refers to the ability to improve or develop new methods of doing business (Bresciani and Ferraris, 2012; Bresciani and Ferraris, 2014). Numerous studies such as Capar and Kotabe (2003) have demonstrated that innovative capabilities have a significant effect on technological progress or output performance. Generally, firms with a superior R&D ability create products and advance operating methods that improve organizational performance (Tsai, 2013), and thus R&D intensity has significant effects on firm performance in competitive international markets. Moreover, firms that invest more in R&D activities increase the likelihood to develop technology-creation routines and learning regimes, which can help them to offer new products more efficiently and quickly than their rivals. So, it is expected to reinforce the impact of internationalization on firm performance (Kotabe, 1990; Zahra *et al.*, 2000; Dias and Bresciani, 2006). The aforementioned arguments can be summarized in the following hypothesis:

Hypothesis 3. The impact of internationalization on SMNCs performance will be stronger for firms with higher R&D intensity than those with lower R&D intensity.

Methods and Variables

Methodology

The study relies on world's largest services companies, derived from the Fortune 500 lists (Fortune, 2013). We took the list of the largest 500 corporations in the world published annually by *Fortune* magazine; it is one of the most important annual ranking of the firm worldwide as measured by revenue. To be included in our sample, a firm had to: (1) be a service firm, (2) have the HQ in Europe, and (3) have >10% of foreign sales on total sales. We took firm level data of each firm from the Amadeus Bureau-Van Dijk database and from the annual report of each firm. Due to data availability constraints our final sample consisted of 92 SMNCs spanning ten industries. The sample is relevant because consists of major European firms from different service industries such as retail/wholesale, utility, information technology (IT) service, tourism, banking, advertising and insurance. So, these companies represent the main firm sales, diversification behavior, and innovative activities of different industries. The average annual revenues or sales of these service firms were 44.8 billion dollar, ranging from 4.5 billion dollar to 341.3 billion dollar; the average number of employees were 124,666. The average of FS/TS were 59.47 %, the R&D expenditures were 362.7 million dollar while the average of ROS was 12%.

Independent variable: firm performance

Return on sales (ROS) was used to measure firm performance. The choice of using this accounting based profitability measure was due largely to the fact that many previous studies have used this measure (e.g., Haar, 1989; Capar & Kotabe, 2003) and also to data availability. Although many other studies have used return on assets (ROA) for performance, data were not widely available to compute these other two indicators. But, Hitt et al. (1997) have indicated that both ROA and ROS have generated similar findings and that they were highly

correlated (r = 0.91). Furthermore, service firms tend to possess significant portions of intangible assets, and the degree of intangible assets is likely to differ considerably across different service industries (for example, utility firms vs consulting firms). Thus assets-based performance measures are less likely to take this difference into consideration. Other studies such as Chang and Wang (2007) use the Tobin's Q ratio that provides information about the value of a firm as a going concern, and thus reflects investors' valuation of both the tangible and intangible assets of the firm. But, this measure leaves intangible assets out of the denominator, thus overstating the relative performance of firms with large investments in intangibles (Lindenberg & Ross, 1981). Moreover, since the market value of a firm varies with the strength of the general economy, the value of Tobin's Q may fluctuate substantially from year to year (Sharpe, 1978).

Dependent variable: International diversification

Consistent with the majority of previous studies (Grant, 1987; Tallman & Li, 1996; Gomes & Ramaswamy, 1999; Capar & Kotabe, 2003; Tsai, 2013), the international diversification is measured as the ratio of foreign sales to total sales (FS/TS). Ramaswamy et al. (1996) have argued for the use of single-item measures. They have cast serious doubts on multidimensional measures based on problems with content validity, criterion validity, and reliability. Other measures used, besides the FS/TS measure, in some studies include the number of countries in which the firm operates (e.g., Tallman and Li, 1996) and the ratio of foreign assets to total assets (Gomes & Ramaswamy, 1999). Hitt et al. (1997) have argued that the entropy index, used for example in the study of Chang and Wang (2007) is a more appropriate measure of international diversification. However, because of data availability constraints and for comparison purposes, the FS/TS ratio has been used in this study. This measure is also in line with the study of Rugman and Verbeke (2004), that used the same list of firms of our study (Fortune 500) to analyze the regional nature of MNEs.

Moderator and control variables

The variable R&D intensity is defined as the annual expenditure on R&D divided by sales (Lu & Beamish, 2004; Tsai, 2013). Companies with higher R&D intensity can achieve higher returns (Hitt *et al.*, 1997; Kotabe *et al.*, 2002). For example, Franko (1989) found a positive association between a firm's R&D spending and its sales growth. We used it as a moderator variable.

The effect of industry membership on firm performance has been confirmed by previous studies (Contractor *et al.*, 2003). We controlled for industry effects by using an industry dummy, which was 1 for knowledge-based service sectors (financial services, telecommunications, insurance and banking) and 0 for capital intensive service sectors (energy & utilities, food & beverage, retail, transport postal services and tourism services). Research also indicates that firm size may partially explain the variance in firm performance in international markets (Decarolis & Reeds, 1999). We thus use firm size as one of our control variables, measured as the natural logarithm of total employees (Capar & Kotabe, 2003; Contractor *et al.*, 2003). It has been used to control for economies and diseconomies of scale at the corporate level. But, the effect of firm size on the performance of international diversification is ambiguous. Firm size is related to the amount of resources under managerial control. Another variable included is the *debt-to-equity ratio,* as a measure of financial leverage (Lu & Beamish, 2004) in order to capture a portion of firm's value and financial indebtedness.

Research limitations

This methodology has some limitations. First of all, international diversification was measured by a single indicator only, namely the ratio of FSTS (such as the study of Capar & Kotabe, 2003). Ideally, it is desirable to have multiple or different indicators to capture the

international activities of firms more fully. However, constraints in data availability hindered this attempt, though the foreign sales to total sales ratio used in this study still remains the most accepted and appropriate measure of international diversification. Second, a number of potential variables (and also moderator variables) such as advertising intensity (Kotabe et al., 2002) and learning capability (Tsai, 2013) has to be excluded due to data availability.

Analysis and results

To test our hypothesis, four regression models were used as presented below. The linear relationship vs the curvilinear relationship vs the sigmoid (S-shaped curve) effect of international diversification on firm performance were tested by a regression procedure using OLS estimation in order to look for the correct form of the relationship. Our focus is only on the results of 2 and 3 regressions, but we chose to include also the first regression to test the linear model. So, to test for curvilinearity, the squared and cubic terms of International Diversification (ID) were gradually entered into the baseline model. In addition, the fourth model was used to test the effect of the R&D intensity as a moderator variable in this relationship.

Table 1 – Results of the regression analysis

Independent variables	***1 - Linear***	***2 -Square***	***3 -Cubic***	***4 - Moderator***
International diversification (ID)	0.08 (2.07)*	-0.94 (-1.87)	-2.68 (-1.37)	0.07 (2.10) *
R&D intensity	0.41 (4.40) ***	0.39 (4.25) ***	0.38 (4.23) ***	0.40 (4.21) ***
Size	0.01 (0.07)	0.02 (0.22)	0.03 (0.36)	0.01 (0.06)
Industry (1= knowledge based, 0 = capital intesive)	0.30 (3.01)**	0.26 (2.63) **	0.26 (2.66) **	0.31 (3.16) **
Debt-to-equity ratio	0.03 (0.26)	0.03 (0.35)	0.04 (0.43)	0.01 (0.13)
International diversification^2 (ID^2)	-	1.04 (2.63) *	4.83 (1.16)	
International diversification^3 (ID^3)	-	-	-2.10 (-0.93)	
ID x R&D intensity	-	-	-	0.17 (2.97) **
R^2	0.35	0.39	0.39	0.42
Adjusted R^2	0.32	0.35	0.34	0.38
F-value	6.36 ***	8.81 ***	7.66 ***	9.88 ***

* P<.05

** P<.01
*** P<.001

The first equation in Table 1 is an examination of the linear effect of international diversification on performance. As can be seen, there is a statistically significant positive relationship. The second equation show that there is a positive and significant relationship at five per cent level when the quadratic term entered in the regression. It shows that there is support for our first hypothesis that there is a U-shaped relationship (curvilinear effect) between international diversification and firm performance in SMNCs. The overall model is significant at the one per cent level, with an Adj. R^2 of 0.35 and the explanatory power of the model increased when the squared term of international diversification, ID^2, entered in the model. In the third regression, in order to investigate the possibility of a three-stage sigmoid (S-shaped) hypothesis (Contractor et al., 2003), we entered a cubic term (ID^3) in the model. As can be seen, there is not a statistically significant relationship and the hypothesis 2 is not supported.

Finally, to test the hypothesis that the impact of internationalization can be moderated by R&D expenditure (hypothesis 3), model 4 was proposed. This hypotheses is supported because the interaction effects (*ID x R&D intensity* variable) is positive and it increases the explanatory power of the model and it is significant at one per cent level. So, the interaction of R&D intensity and internationalization appear to have significant moderating impacts on the relationship between internationalization and performance relationship. Finally, looking at all the four models, we observed that R&D intensity is positive and significant in each of these meaning that a SMNCs with higher level of R&D expenditures have better performance than others with lower level. Moreover, we found an important industry effect meaning that international expansion strategy varies across the two subsamples of SMNCs and differences in reaping the positive benefits of internationalization.

Conclusions, Implications and Further Research

Conclusions

The topic of this paper was to find out the form of the relationship between internationalization and firm performance in huge SMNCs and to identify another factor that play a critical role in strengthen this relationship. This study found a curvilinear relationship (U) between internationalization and performance for SMNCs. So, we have confirmed the study by Capar and Kotabe (2003) that the form of the relationship between multinationality and performance is different for service firms than it is for manufacturing firms. At the same time, we improve the reliability of this study under two different sides: first, testing the hypothesis with a cubic term, we did not find the evidence that support a S-shaped relationship that has been found by Contractor et al. (2003); second, we improve the characteristic of the sample both geographically and over different sector/industry focusing on top SMNEs because the study of Capar and Kotabe (2003) focused only on medium-sized German SMNCs. Moreover, we also found that the characteristics of firms' intangible assets (R&D intensity) have an important impact on this relationship; these explain how firm heterogeneity, in particular in top companies, may strengthens the impact of internationalization on firm performance.

Implications

This work thus addresses an important gap in the literature by highlighting the form of the relationship between internationalization and performance in SMNCs and also empirically supporting the direct and interacting effects of R&D intensity on firm performance in the process of internationalization. This indicates that successful in geographic expansion depends not merely on possessing distinctive capabilities, i.e. marketing capabilities, but also

on firms' intangible assets. So, this study has three implications that are important in the international business literature. First, it improves knowledge in to the stream of literature that refers to the internationalizion of multinational companies, finding empirical evidence of a particular curvilinear form relationship (U-shaped). Second, at the same time it confirms previous studies (in particular Capar & Kotabe, 2003) and improve it with testing also the sigmoid effect by inserting the cubic term in to the regression analysis and also with testing on a specific sample of top SMNEs. Third, it empirically tests that R&D intensity strengthens the impact of internationalization on firm performance. Summarizing, this is one of the first study that tests this relationship on a sample that is very relevant because consists of major European firms from different service industries. From this point of view, previous studies in this field limit their analysis based on a less relevant sample, for example a single European country (Capar & Kotabe, 2003) or taking firms from lists that catch also SMNCs that are in the first stages of internationalization process (Contractor et al., 2003).

From a managerial perspective, looking at model 2, the main contribution is that the incremental effect of international diversification on firm performance of top SMNCs is expected to stay negative until international diversification, or the ratio of FS/TS, reaches approximately 46%[1]. Above and beyond this 46% threshold level, international diversification is expected to improve firm performance. This threshold level could be influenced by the characteristics of the sample, in particular average dimensions that are particularly high in our sample and geographic home country origins (Europe). Based on these findings, SMNCs managers need to rethink and carefully implement their global marketing strategies and their international activities in order to maximize their overall performances.

[1] Assuming away the effect of moderator and control variables, the estimated regression equation for the curvilinear model show how international diversification affects firm performance; a partial derivative of the curvilinear regression equation is taken with respect to ID, which will be 0, if ID^2 IS 0.46.

Future research

These results open up space for further research, in particular it would be interesting to investigate these relationships in all the top SMNCs in the Fortune List and improve the sample with firms coming from all over the world (in particular US and Asia) in order to find different growth path or relationship depending on the home country origin of firms. Moreover, it could be improve the results of our analysis testing for the possibility of a M curve relationship such as the recent paper of Almodovar and Rugman (2014) has found in the Spanish manufacturing MNCs. Finally, future research could also focus on analyzing differences between services and manufacturing MNEs within the top 500 firms. In conclusion, this paper examined the relationship between international diversification and performance by using a sample of European service multinationals. Evidence was found in favor of a U-shaped curvilinear relationship between international diversification and performance. The results of this study also illustrate that the relationship between internationalization and performance can be significantly moderated by R&D intensity. This highlights the need for managers to consider how a firm's intangible assets leverage its competence and performance in the process of geographic expansion.

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