The fit of competitive strategies and firm-specific advantages with country-specific advantages in explaining manufacturing location choices

Author: Murat Akpinar, JAMK University of Applied Sciences, Rajakatu 35, 40200, Jyväskylä, Finland, murat.akpinar@jamk.fi

The original version was published at Competitiveness Review: An International Business Journal on Jan 10, 2020. It can be accessed at https://www.emerald.com/insight/content/doi/10.1108/CR-12-2018-0082/full/html

Abstract

Purpose – This research aims to clarify the fit of competitive strategies and firm-specific advantages (FSAs) with country-specific advantages (CSAs) in explaining manufacturing location choices at product category level in the European automotive industry.

Design/methodology/approach – Seven hypotheses are formulated and tested using binomial logistic regression with data from 148 passenger car models (i.e. product category level) that are sold in Europe and manufactured in countries that offer CSAs of either cost advantages or differentiation advantages. The first four hypotheses test manufacturing location choices of product categories pursuing cost leadership strategy, differentiation strategy, focus strategy, and hybrid strategy. The other three hypotheses test whether FSAs of R&D capability, marketing capability and operations capability will impact on the manufacturing location choice. The tests control for the type of passenger cars as well as the manufacturer's region of origin.

Findings – While pursuing cost leadership strategy leads to manufacturing in countries that offer cost advantages, pursuing differentiation strategy as well as strong R&D capability and marketing capability result in manufacturing in countries that offer differentiation advantages. Focus strategy, hybrid strategy, and operations capability do not have an impact on the manufacturing location choice at product category level.

Research limitations/implications – Conducting empirical research at product category level is subject to limitations in the choices of FSAs due to lack of availability of data.

Practical implications – Managers should assess the competitive strategies and FSAs of their product categories and then decide about manufacturing locations based on their fit with host country CSAs. Policy makers should understand the CSAs of their countries and target to attract manufacturing FDI from product categories with matching competitive strategies and FSAs.

Originality/value – The research contributes to discussions in explaining manufacturing location choices. Its originality lies in being the first study to test the fit of competitive strategies and FSAs of product categories with CSAs.

Keywords: manufacturing location choice, competitive strategy, country-specific advantages, firm-specific advantages, automotive industry, Europe

Article classification: Research paper

1. Introduction

Firms apply different approaches in the manufacturing location choices of their different product categories depending on whether they are aiming for cost arbitrage advantages or advantages from value chain integration (Theyel et al., 2018). Since assets cannot be transferred to other locations without incurring significant costs, the decision where to locate manufacturing operations of different product categories is critical (Ghemawat, 2003). As a result, location choices of multinational enterprises (MNEs) for their different product categories have been a focal research interest in international business (IB) literature (see Kim and Aguilera, 2016 for a review). Aiming to enhance their competitive advantage, MNEs bundle their firm-specific advantages (FSAs), also called ownership advantages, with country-specific advantages (CSAs), also called location advantages to maximize their competitive advantage (Dunning, 1988; Hennart, 2009, 2012, 2018; Mudambi et al., 2018; Rugman and Verbeke, 2001). FSAs are unique capabilities proprietary to the firm built upon R&D capability, marketing capability, operations capability or strong financial capability (Lehmann and Lehmann, 2017; Rugman and Li, 2007; Rugman and Verbeke, 2003). Following Rugman and Li (2007), this research assumes that FSAs differ at product category level. CSAs are exogenous location factors in a country that MNEs can utilize, such as geographic location, factor endowments, market size, government policies, national culture, institutional framework, industrial clusters, investment incentives, or the image of the location (Dixit et al., 2019; Dunning and Lundan, 2008a; Pavlinek, 2018; Rugman and Nguyen, 2014). While there is recognition that CSAs are not freely available to all MNEs operating in the country (Buckley, 2017; Hennart, 2012), there is little knowledge about how some MNEs make more efficient use of the CSAs for their different product categories in enhancing

their competitive advantage (Bhaumik et al., 2016; Buckley et al., 2012; Gugler, 2017). Hennart (2009, 2018) recognizes that IB literature which has exclusively focused on the MNE has neglected the role played by CSAs, and Buckley (2017) demands that the mechanism which converts a latent CSA into competitive advantage should be explained. Mudambi et al. (2018) further suggest that the coevolution of MNEs and geographic locations is one of the most important future research agendas. Addressing this discussion, this research assumes that CSAs contribute to MNE competitiveness with the condition that they match with product category level competitive strategies and FSAs (Pe'er and Keil, 2013; Sethi et al., 2011). Following this assumption, the objective of this research is to test at product category level the effects of competitive strategies (cost leadership strategy, differentiation strategy, focus strategy, and hybrid strategy) and FSAs (R&D capability, marketing capability and operations capability) on the decision to manufacture in countries that offer the CSA of cost advantages or in countries that offer the CSA of differentiation advantages. IB literature has so far focused on CSAs of home countries, CSAs of host countries and FSAs but not looked into the role of competitive strategies in understanding manufacturing location choices at product category level. Introducing competitive strategies into the discussion is important because CSAs may not materialize if they do not match the unique product category level strategies of MNEs (Pe'er and Keil, 2013; Sethi et al., 2011), and it will be wrong to assume that a specific CSA is equally valuable to all MNEs and their product categories (Buckley, 2017; Hennart, 2012, 2018; Kim and Aguilera, 2016; Zaheer and Nachum, 2011). Although Dunning (1988) and Rugman (2010) recognize links between FSAs with CSAs in making manufacturing location choices, building bridges between FSAs and CSAs needs further investigation (Buckley, 2017; Rugman, 2010). This research, which investigates competitive strategy at product category level as a possible

bridge between FSAs and CSAs, is an attempt to fill this need. Its contribution lies in the introduction of competitive strategies into the discussion to explain manufacturing location choices of different product categories in countries that offer different types of CSAs. The findings suggest that product categories that pursue differentiation strategy will develop FSAs of R&D capability and marketing capability, and they will be manufactured in countries that offer differentiation advantages. Product categories that pursue cost leadership strategy, on the other hand, will be manufactured in countries that offer cost advantages, but they do not exhibit linkages to the three FSAs included in this research. Finally, no linkages could be identified between CSAs and FSAs in the cases of focus strategy and hybrid strategy.

The rest of the paper is organized as follows. Hypotheses are developed following the literature review in section 2, and the research methodology is described in detail in section 3. The results from the empirical study are shared in section 4, and the paper ends with a discussion on findings in section 5.

2. Literature Review and Hypotheses Development

2.1 CSAs

CSAs are locational exogenous factors that contribute to the competitiveness of a firm and its product categories. Porter (1990) argues that firms from some countries are more competitive thanks to their home country CSAs. Advanced factor conditions, a large and sophisticated home market, strong related and supporting industries as well as a favourable context for firm strategy and rivalry enable firms to be more innovative

and productive (ibid.). The OLI paradigm by Dunning (1988) and the FSA/CSA framework by Rugman (2010), on the other hand, suggest that MNEs make FDI in order to improve their competitiveness through host country CSAs.

Dunning (1988) proposes four motives for FDI, namely market-seeking, resource-seeking, strategic asset-seeking, and efficiency-seeking. These motives represent the corresponding host country CSAs. In market-seeking FDI the MNE aims to be close to an attractive market in order to understand market behaviour and respond quickly to changing demand conditions, secure access to distribution channels, or avoid high transportation costs and tariff or nontariff barriers to that market (ibid.). Earlier studies indicate a positive relationship between FDI activity and host country market size (Buckley et al., 2012). In resource-seeking FDI the aim is to access and control natural resources in a host country which are valuable to the operations of the MNE (Dunning, 1988). Earlier studies suggest that there may not be a significant relationship between FDI activity and host country endowments in the context of service industries or industries where the natural resources can be transported with ease and low cost to the MNE's existing manufacturing locations (Buckley et al., 2012). Strategic asset-seeking FDI aims at acquiring knowledge-based assets which have strategic importance for the MNE, such as brands, high technology, scarce skills, as well as marketing and management capabilities (Dunning, 1988). Earlier studies suggest a positive relationship between knowledge assets as well as strong protection of intellectual property rights in the host country and strategic asset-seeking FDI activity of MNEs from emerging markets (Buckley et al., 2012; Estrin et al., 2018; Gao et al., 2019; Luo and Tung, 2018). According to Luo and Tung (2007, 2018) emerging market MNEs use this "springboard strategy" to compensate for their FSA voids, overcome laggard disadvantages, bypass trade barriers into advanced

markets, reduce their vulnerability to institutional constraints in home country, and thus better compete with global rivals. Finally, in efficiency-seeking FDI the main objective is to achieve cost efficiencies through for example savings in labour costs or tax advantages in the host country (Dunning, 1988). Emerging markets with low labour costs are naturally primary destinations for this type of FDI. The extant literature on offshoring manufacturing activities suggests that next to efficiency benefits MNEs also encounter hidden costs in this type of FDI such as costs of selecting a vendor, layoff costs, cultural costs, ramp-up costs, coordination costs, control costs, and knowledge transfer costs, as well as issues related to quality, lead time, flexibility, access to skills and knowledge, and access to technology (Johansson and Olhager, 2018; Larsen et al., 2013; Larsen, 2016). In Dunning's typology, all four types of FDI motives consider only the host country CSAs like the market, the resource, the knowledge-based asset, or efficiency enhancers. They do not differentiate between MNE behaviours based on neither their competitive strategies nor FSAs at product category level. This research benefits from the typology of FDI motives specifically in that the efficiency-seeking motive is utilized in developing Hypothesis 1, and the strategic asset-seeking motive is utilized in Hypothesis 2.

Lehmann and Lehmann (2017) categorize CSAs into 'natural CSAs' and 'created CSAs'. Whereas natural CSAs are given locational advantages such as the size of the market, or the availability of natural resources, created CSAs refer to interventions such as government support and policies. Hennart (2012) argues that created home country CSAs are influential in explaining the successful internationalization of Chinese MNEs. IB research recognizes that the value of CSAs is not the same for all MNEs in that it depends on the MNE's capabilities to transform them into a source of advantage (Buckley, 2017; Kim and Aguilera, 2016; Zaheer and Nachum, 2011). In addition, access to CSAs

will not be equal to all especially in emerging markets because of market imperfections (Hennart, 2012, 2018). Rugman (2010) and Buckley (2017) argue that it is the existence of strong CSAs of host countries which will trigger the decision to make manufacturing FDI. In other words, if the CSAs are weak, there will not be any FDI no matter how strong the FSAs are.

Agreeing with Rugman (2010) and Buckley (2017) that CSAs are central to manufacturing location decisions, this research acknowledges further that it's the match of the competitive strategies at product category level with the appropriate CSAs (see section 2.2) and the match of the FSAs with the appropriate CSAs (see section 2.3) that will determine differences in MNEs' choices of manufacturing locations. In order to develop the hypotheses to match competitive strategies and FSAs with CSAs, this research introduces a CSA typology of cost advantages vs. differentiation advantages. This typology is derived from the assumption that there are two sources of competitive advantage: lower costs and differentiated superior products / services (Porter, 1980, 1985).

Cost advantages: Establishing operations in cost advantage countries will enable efficiency-seeking MNEs to lower their manufacturing costs and be more cost competitive than their rivals (Dunning, 1988). Cost advantages can result from many sources in a host country such as a large market size (allowing to achieve economies of scale), availability of cheap raw materials, lower labour costs, lower energy costs, lower transportation costs, lower taxation levels, the existence of investment incentives, ease of access to financial resources, and possible institutional factors which help to lower costs (Dunning and Lundan, 2008a). Previous studies suggest that low labour cost is the primary driver in the offshoring of manufacturing activities (Dixit et al., 2019: Johansson and Olhager, 2018; Pavlinek, 2019).

Differentiation advantages: The resource-based view of the firm argues that MNEs will achieve competitive advantages through valuable, rare, imperfectly imitable, and not substitutable specialized resources (Barney, 1991). Similarly, the knowledge-based view suggests that MNEs will internalize and exploit tacit knowledge across borders in order to innovate differentiated superior products and services (Kogut and Zander, 1993). Establishing operations in differentiation advantage countries will enable strategic asset-seeking MNEs to be more innovative for creating differentiated superior products and services than their rivals (Dunning, 1988). Sources of specialized resources and tacit knowledge in a host country can be advanced factor conditions such as the availability of highly educated human capital, cutting-edge research institutions, highly developed technological infrastructure, and advanced commercial infrastructure as well as the existence of strong related and supporting industries, high level of rivalry among competitors, and policies and institutions that promote an effective innovation ecosystem (Porter, 1990).

2.2 Competitive strategies and CSAs

Despite recognitions that heterogeneity in MNE attributes and motivations play a role on location choice (Dunning, 2000; Dunning and Lundan, 2008a; Jain et al., 2016), there is lack of research on how competitive strategies at product category level impact on location choices in connection with CSAs (Sethi et al., 2011). Competitive strategy refers to strategic positioning of a product category against competition (Porter, 1980, 1985). Strategic positioning means performing different activities from competitors or performing similar activities in different ways to deliver a unique value proposition to customers (Porter, 1996). Porter (1980, 1985) names three types of generic strategies for strategic

positioning: cost leadership, differentiation, and focus. In cost leadership strategy, the firm would choose and set its activities in optimal ways to achieve lower costs than its competitors. The focus is on productivity along the value chain through tight cost control, economies of scale, economies of scope and learning effects, and trade-offs are made to offer low prices to customers. In differentiation strategy, the firm would target to provide unique and superior value to customers in terms of product quality, special features, or after-sales services. Miller (1992) suggests that differentiation can be achieved through marketing, innovations, and superior quality. Hence, differentiation strategy requires high investments in R&D (for innovations and quality improvements) and marketing (for brand building). As a result, the barriers to entry are high, which allows the firm to charge premium price for its unique products and services. Finally, in focus strategy, the firm could pursue either cost leadership (called cost focus) or differentiation (called differentiation focus) targeting only one or two narrow market segments (Porter, 1980, 1985). As such, this is not an alternative strategy to cost leadership and differentiation strategies, but a complimentary strategy that can be used in combination with them. This strategy assumes that by focusing efforts on a few segments firms can better meet the needs of customers in those segments.

Porter's typology has been adopted widely in strategic management literature (see Parnell, 2006; Salavou, 2015), but in time advances in technology have enabled manufacturers to pursue simultaneously cost leadership and differentiation strategies, called hybrid strategy (Proff, 2000). Also called mixed, integrated, combination and mixed-emphasis strategy (see Salavou, 2015), hybrid strategy is an alternative strategy to cost leadership and differentiation strategies, and in line with the discussion before, it is also assumed to be complimentary to focus strategy.

Although hybrid strategy has been mixed for a long time with stuck-in-the-middle strategies, it has started to receive increasing attention as a promising alternative to the single strategies (ibid.). Successful implementation of hybrid strategy may result in higher firm performance than pure cost leadership or differentiation strategy especially in hypercompetitive contexts in Europe (see Acquaah and Yasai-Ardekani, 2008; Claver-Cortés et al., 2012; Gopalakrishna and Subramanian, 2001; Kim et al., 2004; Leitner and Güldenberg, 2010; Salavou, 2013), but failure in the implementation can also result in the 'stuck-in-the-middle' situation, in which the firm will not achieve competitive advantage and perform poorly (Acquaah and Yasai-Ardekani, 2008; Porter, 1980, 1985).

Whereas most of the earlier studies on competitive strategies are the business unit level, this research is the first one to apply them at product category level, hypothesizing the impacts of cost leadership strategy, differentiation strategy, focus strategy, and hybrid strategy on manufacturing location choices in the light of the CSAs of cost advantages and differentiation advantages as follows.

Hypothesis 1: Product categories pursuing cost leadership strategy are more likely to locate their manufacturing operations in cost advantage countries than in differentiation advantage countries.

The match between cost leadership strategy and the CSA of cost advantages in Hypothesis 1 is derived from the assumptions behind this strategy, the efficiency-seeking motive of FDI, and the underlying premise of the OLI paradigm. Cost leadership strategy seeks to achieve cost advantages in all operations along the value chain including manufacturing (Porter, 1980, 1985). The efficiency-seeking motive of FDI argues that manufacturing will take place in a cost advantage location if the motive is to enhance operational efficiencies, and the OLI paradigm

suggests that MNEs will internalize the CSA of cost advantages to improve the efficiency of their operations and as a result decrease their own costs and improve their cost competitiveness (Dunning, 1988).

Hypothesis 2: Product categories pursuing differentiation strategy are more likely to locate their manufacturing operations in differentiation advantage countries than in cost advantage countries.

The match between differentiation strategy and the CSA of differentiation advantages in Hypothesis 2 is based on assumptions behind this strategy as well as arguments from the strategic asset-seeking motive of FDI and the OLI paradigm. The aim of differentiation strategy is to create a differentiated product with superior attributes through R&D investments in product development and to develop its brand equity through marketing investments (Porter, 1980, 1985; Miller, 1992). As such, product categories of MNEs pursuing differentiation strategy will either develop R&D and marketing capabilities internally, or as the strategic asset-seeking motive of FDI suggests, invest in locations that offer these capabilities (Dunning, 1988). As a result, they will internalize the CSA of differentiation advantages in order to develop necessary FSAs to achieve differentiation strategy (ibid.).

Hypothesis 3: Focus strategy by itself will not determine the manufacturing location choice. There is a need to enquire further whether the product category is pursuing cost focus strategy or differentiation focus strategy.

Hypothesis 3 argues that focusing on certain market segments per se, i.e. pursuing focus strategy, will not impact on the manufacturing location choice by itself. This is because focus strategy can apply to both cost leadership strategy and differentiation strategies (Porter, 1980,

1985). As such, MNEs will locate their manufacturing operations in cost advantage countries or differentiation advantage countries depending on whether their product categories are pursuing cost focus strategy or differentiation focus strategy respectively, in line with Hypothesis 1 and Hypothesis 2.

Hypothesis 4: Product categories pursuing hybrid strategy will not all make the same preference between countries of cost advantages and countries of differentiation advantages for their manufacturing locations since they target both advantages simultaneously. Their preference may depend on which advantages they already possess, and which ones they lack.

Hypothesis 4 argues that pursuing hybrid strategy does not directly impact on the manufacturing location choice between cost advantage countries and differentiation advantage countries. This is because these product categories are seeking both advantages simultaneously, as hybrid strategy pursues both cost leadership strategy and differentiation strategy at the same time (Proff, 2000; Salavou, 2015). MNEs may choose to locate the manufacturing operations for these product categories in countries that offer advantages which they lack. For example, if the MNE already possesses cost advantages but lacks differentiation advantages, it may prefer to locate or acquire manufacturing operations in differentiation advantage countries. This is the case for some strategic asset-seeking MNEs from emerging markets (see Buckley et al., 2012; Estrin et al., 2018; Gao et al., 2019; Luo and Tung, 2018).

2.3 FSAs and CSAs

FSAs are unique, valuable, imperfectly imitable and hard-to-substitute capabilities or strategic resources internalized by the firm that give the firm competitive advantage (Barney, 1991). Examples of FSAs are advanced technology, advanced machinery and equipment, intellectual property rights, brand names, access to rare raw materials, advanced human and social capital, superior organizational planning and coordinating systems, and strong financial capability (Dunning and Lundan, 2008b; Lehman and Lehman, 2017; Rugman and Li, 2007; Rugman and Verbeke, 2003). Some FSAs like marketing capability are location bound, hence difficult to transfer from one location to another, while others like for example R&D capability are non-location bound, and they can be exploited beyond the borders of the home country (Ral-Trebacz et al., 2018).

IB literature recognizes that superior performance in international markets can be attributed to FSAs including for example firm size and multinational experience (Agarwal and Ramaswami, 1992), managerial, R&D and marketing capabilities (Buckley and Casson, 2010), and business relationships and networks (Johanson and Vahlne, 2010). Empirical studies suggest that MNEs with less foreign experience (Henisz and Delios, 2001) and with weaker R&D capability (Shaver and Flyer, 2000) are attracted to locations with a high density of similar MNEs. Competitive advantage from FSAs may erode over time as FSAs can be copied, stolen, replicated or competed away (Buckley, 2017). It can also erode because access to the market can be limited by regulatory restrictions, or because local partners can transform into competitors in emerging markets where intellectual property rights are not well-protected (Curran and Ng, 2018). In response to possible erosion, MNEs should continuously improve their FSAs to remain ahead of competition (Teece, 2014). MNEs can also respond by focusing on market segments where

their FSAs are more resistant to local competition, by localizing themselves and their supply chains, by lobbying the local government, and by not bringing the latest technology to emerging markets (Curran and Ng, 2018).

Rugman (2010) and Buckley (2017) argue that strong FSAs do not necessarily affect manufacturing location decisions unless there are strong CSAs. According to the OLI paradigm and the FSA/CSA matrix MNEs should aim to achieve a good fit between their FSAs and CSAs of host countries in making their location choices (Dunning, 1988; Rugman, 2010). This research aims to test this for three types of FSAs, namely R&D capability, marketing capability, and operations capability. These FSAs are identified by Buckley and Casson (2010) as well as Dunning and Lundan (2008b) for creating competitive advantage in international markets. They are included in this research because of their wide recognition in earlier studies as FSAs (see He et al., 2019; Nath et al., 2010; Ral-Trebacz et al., 2018) and the availability of data for these FSAs at product category level.

R&D capability refers to the availability of research talent to generate new ideas for innovating products or services (Lukas and Bell, 2000). As innovation is identified as a critical success factor for pursuing differentiation strategy (Akan et al., 2006; Allen and Helms, 2006), this capability is very important for product categories which pursue differentiation strategy because product innovations enable to differentiate product categories from those of competitors (Miller, 1992; Porter, 1980, 1985). Product categories that pursue the strategy of cost leadership may also have R&D capability regarding for example process development. However, experience from the automotive industry suggests that R&D for product development is significantly higher than R&D for process development. Marketing capability is the ability to understand

consumer needs, achieve product differentiation relative to competition, and build superior brand equity (Nath et al., 2010). This capability is also expected to have a positive correlation with differentiation strategy because a strong brand differentiates the product category from its competitors (Miller, 1992; Porter, 1980, 1985). This does not mean that product categories that pursue the strategy of cost leadership do not have any marketing capability. However, since cost leadership strategy primarily aims to minimize all costs, and R&D capability and marketing capability are measured in this research as the ratios of their corresponding costs to sales revenues, this strategy is not expected to be positively correlated with R&D capability and marketing capability. Indeed, minimizing distribution costs is identified as the most significant tactic of cost leadership strategy (Akan et al., 2006; Allen and Helms, 2006). The strong connections between differentiation strategy and R&D and marketing capabilities leads to the expectation that, similar to Hypothesis 2, product categories with strong FSAs of R&D and marketing capabilities will prefer manufacturing in differentiation advantage countries. The related hypotheses of these FSAs are stated as follows.

Hypothesis 5: Product categories of strong R&D capability are more likely to locate their manufacturing operations in differentiation advantage countries than in cost advantage countries.

Hypothesis 6: Product categories of strong marketing capability are more likely to locate their manufacturing operations in differentiation advantage countries than in cost advantage countries.

Nath et al. (2010) define operations capability as the ability to conduct manufacturing operations with the most efficient use of technology, resources, and flow of materials. Product categories with superior operations capability will aim to reduce the cost of operations through superior

process knowledge, and thus achieve competitive advantage (Tan et al., 2007). These arguments match with those of the cost leadership strategy, which aims to minimize costs along the value chain through operational excellence (Porter, 1980, 1985). The match between the aims of cost leadership strategy and the arguments of operations capability leads to Hypothesis 7, which, similar to Hypothesis 1, proposes that strong operations capability will seek cost advantages and thus prefer manufacturing in cost advantage countries.

Hypothesis 7: Product categories of strong operations capability are more likely to locate their manufacturing operations in cost advantage countries than in differentiation advantage countries.

3. Methodology

3.1 The model

The model tests the impacts of seven explanatory variables, selected according to the hypotheses in this research, and two control variables on choices to manufacture in cost advantage countries vs. in differentiation advantage countries using binomial logistic regression in the context of the passenger car business area of the European automotive industry. The variables included in the regression and their measures are presented in Table 1.

Table 1. Variables and their measures

Variable	Type of variable	Measure
Manufacturing location	Dependent, categorical	1 = manufacturing in cost advantage countries 2 = manufacturing in differentiation advantage countries
Cost leadership strategy	Explanatory, categorical	0 = model is not pursuing cost leadership strategy 1 = model is pursuing cost leadership strategy
Differentiation strategy	Explanatory, categorical	0 = model is not pursuing differentiation strategy 1 = model is pursuing differentiation strategy
Focus strategy	Explanatory, categorical	0 = model is not pursuing focus strategy 1 = model is pursuing focus strategy
Hybrid strategy	Explanatory, categorical	0 = model is not pursuing hybrid strategy 1 = model is pursuing hybrid strategy
R&D capability	Explanatory, numerical	The ratio of R&D expenses to sales revenues
Marketing capability	Explanatory, numerical	The ratio of marketing and distribution expenses to sales revenues
Operations capability	Explanatory, numerical	Gross profit margin
Type of passenger car	Control, categorical	1 = mini 2 = small 3 = medium 4 = large or executive 5 = sports 6 = sports utility vehicles
European origin	Control, categorical	0 = manufacturer of the model is not of European origin 1 = manufacturer of the model is of European origin

Note: Whereas cost leadership strategy, differentiation strategy, and hybrid strategy are alternative strategies, focus strategy is a complementary strategy, which can be used in combination with the other three strategies.

The dependent variable of the model (y), the choice of the manufacturing location of the i^{th} car model, is binary, i.e. y_i assumes the value of 1 if the i^{th} car model is manufactured in a cost advantage country, or 2 if it is manufactured in a differentiation advantage country. Manufacturing locations in this research that are classified as cost advantage countries have low hourly labour compensation cost, and locations that are classified as differentiation advantage countries score high in the global innovation index (see section 3.2 for detailed description on the classification method). Since the dependent variable is dichotomous, the following binomial logistic regression model is borrowed from the analysis of Rose and Ito (2009) to estimate it.

$$P[y_i=1 \text{ or } 2] = [1+e^{(-a-bX_i)}]^{-1}$$

In the model X is the vector of explanatory and control variables, a is the intercept parameter, and b is the vector of coefficient parameters. The explanatory variables are cost leadership strategy, differentiation strategy, focus strategy, hybrid strategy, R&D capability, marketing capability, and operations capability. The four types of strategies are binary categorical variables, which take the value of one if the car model pursues that strategy or zero if otherwise. The four strategies are treated as separate variables in the model rather than categories of a single variable because the purpose is to see the impact of each strategy individually on the manufacturing location choice. Furthermore, while cost leadership strategy, differentiation strategy, and hybrid strategy are alternatives to each other, focus strategy is complimentary to the other three strategies (see Porter, 1980, 1985; Proff, 2000). As suggested by earlier studies (see Lukas and Bell, 2000; Nath et al., 2010; Ral-Trebacz et al., 2018) R&D capability and marketing capability are measured as ratios of R&D expenses and marketing and distribution expenses to sales revenues

respectively. The choices of these measures are also influenced by the availability of data at product category level. Nath et al. (2010) suggest to measure operations capability with measures related to cost of capital (e.g., tangible assets), cost of labour (e.g., remuneration), and cost of operations (e.g., cost of sales). Taking into account the availability of data at product category level, operations capability is measured in this research by looking at productivity in the cost of operations using the gross profit margin, which is the ratio of sales revenues minus cost of sales to sales revenues. As cost of sales, also called cost of goods sold, refers to all costs related to supply of raw materials, manufacturing operations, and internal logistics, gross profit margin captures well the management of manufacturing, logistics, and supply chain operations. In the empirical study there are also two control variables, namely the type of passenger car, and the European origin of the car model. These variables are selected with two considerations: first, they are product category level variables, and second, they do not represent FSAs. The second consideration is relevant to avoid possible issues of multicollinearity in the model. The type of passenger car is a categorical variable with values from one to six. The types, adopted from JATO (2019), are 1: mini cars, 2: small cars, 3: medium cars, 4: large or executive cars, 5: sports cars, and 6: sports utility vehicles. The reason to control for this variable is to check whether the manufacturing location decision varies by type of passenger car. The European origin of the car model is also a categorical variable which takes the value of one if the car model is of European origin, or zero if otherwise. The reason to control for this variable is because there is evidence that MNEs pursue regional strategies (Rugman and Collinson, 2004), but the understanding of their regional strategies and their impacts on location choices remains to be further investigated

(Piekkari et al., 2010). Since MNEs incur less costs when they expand in the home region, their manufacturing location choices and expansion patterns may differ by region (Banalieva and Dhanaraj, 2013; Enright, 2009).

3.2 Data collection

The context for the empirical study is the passenger car business area in the European automotive industry. Focusing on a specific region such as Europe is because car manufacturers pursue mostly regional strategies (Rugman and Collinson, 2004). Moreover, the automotive industry, which accounts for about 10 percent of all manufacturing employment in the European Union (EU), is an important manufacturing industry in the region, and the Eastern expansions of the EU has increased competition to attract foreign direct investments (FDI) from car manufacturers, which are among the world's largest MNEs (Schmitt and van Biesebroeck, 2013). This development has provided possibilities for car manufacturers to reconsider their manufacturing location strategies and reconfigure their value chains in order to enhance their competitive advantage (Schmid and Grosche, 2008), and as a result the European automotive industry has been subject to offshoring, nearshoring as well as to a limited level backshoring of manufacturing activities (Dachs et al., 2019; Pavlinek, 2019). Varying responses of different car manufacturers and varying responses of passenger car models (i.e. product categories) of the same manufacturer to this development provide a suitable testing opportunity to understand the impacts of competitive strategies and corresponding FSAs at product category level on manufacturing location choices in the light of their match with CSAs. Focusing only on product categories in the passenger car strategic business area is because different business areas have

different competitive environments, and as such, MNEs pursue different competitive strategies in different strategic business areas (Porter, 1980, 1985). Hence, methodologically it would be incorrect to compare manufacturing location choices of product categories for passenger cars, light commercial vehicles, heavy trucks, and buses and coaches in a single study. The focus is also on manufacturing activity only since location choices also differ by the type of value chain activity (Crescenzi et al., 2014). In the value chain of the automotive industry, for example, whereas R&D activity is concentrated in specific knowledge hotspots, assembly takes place in many medium skill locations, and sales and after-sales services are dispersed in global markets (Mudambi et al., 2018). The analysis is at product category level rather than at firm level since competitive strategies and manufacturing location decisions differ at that level. As Rugman and Li (2007, 335) quote: '*it should be more useful to situate each product line individually, recognizing that they would use different generic strategies.'* Responding to this call can be considered as a second contribution of this research in that results from the analysis at product category, i.e. passenger car model level provide more accurate insights than at firm level. This is supported by the industry observation that manufacturers position their brands independently and pursue their marketing activities accordingly. For example, the Volkswagen Group's marketing activities on the brands of Volkswagen, Audi, Skoda, SEAT, Bentley, and Porsche are carried out independently, and they even have their own annual reports.

In collecting the data first all the passenger car models sold in Europe and their manufacturing locations are identified. Data on models' assembly plants is collected from the statistics of ACEA, the European Automobile Manufacturers' Association (2019), and manufacturing data is collected from the statistics of OICA, the International Organization of Motor Vehicle Manufacturers (2019). Data on models and assembly

plants is triangulated with corresponding data from the websites of each car manufacturer. The initial dataset consisted of 211 passenger car models manufactured by 29 different manufacturers. This excludes racing models and fully electric models since the former is not for transportation purposes, and the latter is a newly emerging concept. From this set fancy car models manufactured only locally by assemblers such as AC Cars Group, Aston Martin Lagonda, Bowler Motor Sport, DR Motor, Imperia Automobiles, Koenigsegg Automotive, Lotus Group, McLaren, Pagani, SAIC Motor, and Spyker NV are removed. Next the manufacturing countries of the models are classified as cost advantage countries, differentiation advantage countries, or others. The criterion that is used to identify cost advantage countries is low hourly labour compensation cost, and corresponding data is retrieved from The Conference Board (2016) and Eurostat (2017). Since the automotive industry is labour-intensive, labour cost is a representative measure for cost advantages, and it has been the dominating factor in offshoring of manufacturing activities (Dixit et al., 2019; Johansson and Olhager, 2018; Pavlinek, 2019). The criterion that is used to identify differentiation advantage countries is high global innovation index. The global innovation index is a composite measure of a country's innovation ecosystem which takes into consideration the country's institutions, human capital, research, infrastructure, market sophistication, business sophistication, knowledge outputs, technology outputs, and creative outputs (Cornell University et al., 2017). Therefore, it is a good representative for the CSA of differentiation advantages. Table 2 lists the scores of all the countries where the models are manufactured according to these two criteria.

Table 2. Data for the classification of car manufacturing countries

Countries in alphabetical order	Hourly labour compensation cost (USD)	Global innovation index (standardized from 0 to 1)
Austria	39.19	0.53
Belgium	46.56	0.50
Czech Republic	10.29	0.51
Finland	38.46	0.58
France	37.59	0.54
Germany	42.42	0.58
Holland	36.53	0.63
Hungary	8.25	0.42
Italy	31.48	0.47
Japan	23.60	0.55
Poland	8.53	0.42
Portugal	11.08	0.46
Romania	5.41	0.39
Serbia	2.86	0.35
Slovakia	11.26	0.43
Slovenia	17.43	0.46
South Korea	22.68	0.58
Spain	23.65	0.49
Sweden	41.68	0.64
Turkey	5.81	0.39
UK	31.44	0.61

Sources: The Conference Board (2016), Eurostat (2017), and Cornell University et al. (2017).

The cost advantage countries in alphabetical order are the Czech Republic, Hungary, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, and Turkey. The hourly labour costs in these countries range from 2.86 USD per hour in Serbia to 17.43 USD per hour in Slovenia (see Table 2).

These rates are much lower than in other car manufacturing countries such as Belgium (46.56 USD per hour), Germany (42.42 USD per hour), and Sweden (41.68 USD per hour). The differentiation advantage countries in alphabetical order are Austria, Finland, France, Germany, Holland, Japan, South Korea, Sweden, and the UK. On a scale from 0 to 1, the standardized indices of these countries range from 0.53 in Austria to 0.64 in Sweden (see Table 2). These are much higher than in for example Serbia (0.35), Turkey (0.39), and Romania (0.39). Three car manufacturing countries, namely Belgium, Italy and Spain, are classified neither as cost advantage countries nor as differentiation advantage countries based on their hourly labour cost rates and global innovation indices (see Table 2). As the objective is to differentiate among determinants behind manufacturing in cost advantage countries and differentiation countries, car models that are manufactured in Belgium, Italy and Spain are also removed from the dataset, and the final dataset contains 148 car models manufactured by 18 different manufacturers.

The strategy of each car model is identified based on competition in each of the six types of passenger cars. This is done by investigating the price ranges of all car variants with different features belonging to the models competing in each type of passenger car. For example, a model will pursue cost leadership strategy if the price range of the model's variants is at the lower end of the price spectrum of all competing models. Vice versa, a model will pursue differentiation strategy if the price range of its variants is at the higher end. If the price range of a model's variants is diverse covering the whole price spectrum from the low to the high end, then it is assumed that the model will pursue hybrid strategy. Finally, if a model offers variants in one or two types of passenger cars, it is considered to pursue focus strategy. In classifying the competitive strategies of the car models data on new car prices is collected from Santander Consumer Finance (2019), a portal which exhibits the prices of all

possible variants of all models sold in Finland. Comparing prices of cars in a single country allows to overcome the issue of different levels of taxation in different countries. The resulting classification of competitive strategies is validated by checking the models' information on their web sites and annual reports, as well as by receiving the opinions of an expert from the automotive industry. Finally, data on the measures for R&D capability, marketing capability and operations capability is retrieved from the financial statements of each brand of every car manufacturer in their annual reports.

3.3 Data analysis

Data analysis for testing the hypotheses is conducted using IBM SPSS statistics software. Descriptive statistics are calculated and analysed first (see section 4.1), and then possible issues of multicollinearity are checked. Although the variance inflation factors of the independent variables are all less than 5, high Spearman's correlation statistics between some of the independent variables necessitates caution. Suspicions of multicollinearity are indeed confirmed when the binary logistic regression is run with the full set of independent variables. There are different ways to handle multicollinearity, such as combining multicollinear variables into a single variable, or dropping the multicollinear variables (Graham, 2003). It is not a good idea to have a combined variable called for example competitive strategy including the categories of cost leadership, differentiation, and hybrid strategies because the intent of this research is to test the effects of each strategy separately. For the purposes of this research it is not desirable to give up any variable, either. As a result, it is decided to run four models, whereby the highly

correlating explanatory variables will not be included in the same model. Model 1 is the base model which includes the two control variables only. Model 2 includes the control variables plus cost leadership strategy, focus strategy, R&D capability and operations capability. These four explanatory variables are chosen in the same model here as they are not highly correlating with each other, and the intent is to keep the number of models at a minimum. Thereafter, Model 3 includes the control variables plus hybrid strategy and marketing capability, and Model 4 consists of the control variables plus differentiation strategy. By keeping the highly correlating three strategies as well as the highly correlating R&D capability, marketing capability and differentiation strategy in different models unexpected results arising from multicollinearity are avoided. In order to further ensure the reliability and the validity of the results, possible issues of heteroscedasticity are checked by observing the plots of residuals vs. fitted values for each model, and the goodness of fit of each model is tested using the Hosmer-Lemeshow test. The plots reveal that the residuals are scattered homogeneously, and all of the models except for Model 1 have good fit with Hosmer-Lemeshow significance values greater than 0.05 (see Table 4). Despite its low goodness of fit, Model 1 is still included in the analysis as a base model in order to identify the contributions of the explanatory variables in the other four models by benchmarking them against this base model.

4. Results

4.1 Descriptive statistics

Descriptive statistics and correlations are presented in Table 3. Out of the 148 models 105 (70.9%) are manufactured in differentiation advantage countries, and 43 (29.1%) are manufactured in cost advantage countries. This breakdown varies however significantly by type of competitive strategy. While cost leadership strategy favours cost advantage countries (56.4%) over differentiation advantage countries (43.6%) as manufacturing location, differentiation strategy favours differentiation advantage countries (91.0%) over cost advantage countries (9.0%). Car models which pursue focus strategy and hybrid strategy also prefer differentiation advantage countries with 84.0% and 64.3% respectively. 26.4% of the models pursue cost leadership strategy, 45.3% pursue differentiation strategy, 16.9% pursue focus strategy, and 28.4% percent pursue hybrid strategy. While the average ratio of R&D expenditures to sales revenues is 4.7%, the average ratio of marketing and distribution expenses to sales revenues is 6.3%, and the average gross profit margin is 20.7%. Among the types of cars the majority is sports utility vehicles (35.8%). This is followed by medium-size cars (16.9%), large or executive cars (15.5%), sports cars (11.5%), small cars (10.1%) and mini cars (10.1%). Finally, 56.1% of all the models is of European origin.

Table 3. Descriptive statistics and the correlation matrix

			Correlations								
	Frequency or mean	St. dev.	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Manufacturing location	1: 29.1%; 2: 70.9%										
2. Cost leadership strategy	0: 73.6%; 1: 26.4%		*-0.36								
3. Differentiation strategy	0: 54.7%; 1: 45.3%		*0.40	*-0.54							
4. Focus strategy	0: 83.1%; 1: 16.9%		0.13	-0.11	*0.24						
5. Hybrid strategy	0: 71.6%; 1: 28.4%		-0.09	*-0.38	*-0.57	-0.16					
6. R&D capability	4.7%	1.6%	*0.42	*-0.33	*0.47	*0.43	-0.20				
7. Marketing capability	6.3%	3.0%	*0.22	*-0.25	*0.41	0.18	-0.21	*0.41			
8. Operations capability	20.7%	4.8%	0.21	-0.04	0.19	0.12	-0.17	0.10			
9. Type of passenger car	1: 10.1%; 2: 10.1%; 3: 16.9%; 4: 15.5%; 5: 11.5%; 6: 35.8%		0.11	-0.16	0.20	0.18	-0.07	0.20	0.16	0.03	
10. European origin	0: 43.9%; 1: 56.1%		-0.12	-0.15	*0.23	-0.07	-0.11	*0.35	0.11	*-0.25	-0.10

N = 148
* Spearman's correlation is significant at the 0.01 level (2-tailed).
Note: The category 1 frequencies of the alternative strategies of cost leadership strategy, differentiation strategy, and hybrid strategy add up to 100% (the 0.1% difference is due to rounding to a single decimal). The focus strategy's frequency cannot be added to the frequencies of the other strategies since it is not an alternative strategy.

Spearman's correlation statistics hint that while cost leadership strategy and differentiation strategy have significant correlations with manufacturing location, the former favouring the CSA of cost advantages and the latter preferring the CSA of differentiation advantages, focus

strategy and hybrid strategy do not (see Table 3). R&D capability and marketing capability have also significant correlations with manufacturing location, both preferring the CSA of differentiation advantages, whereas operations capability, type of passenger car and being of European origin do not. These correlations suggest two possible types of fit between CSAs, competitive strategies and FSAs. First, there can be a fit between the CSA of differentiation advantages and the differentiation strategy as well as the FSAs of R&D capability and marketing capability. Second, there can be a fit between the CSA of cost advantages and cost leadership strategy. This fit, however, may not extend to the FSAs included in this research. These possibilities will be verified following the testing of the hypotheses in section 4.2.

There are also high correlations among the explanatory variables of cost leadership strategy, differentiation strategy, and hybrid strategy, as well as between R&D capability, marketing capability and differentiation strategy. It is observed that these high correlations create multicollinearity problems. Therefore, as described in section 3.3, hypotheses corresponding to the highly correlating variables are tested in separate models (see Table 4).

4.2 Testing of the hypotheses

In testing the hypotheses four models are run, and their results are presented in Table 4.

Table 4. Binomial logistic regression statistics

	Model 1	Model 2	Model 3	Model 4
Descriptions of the models	Base model: only the control variables	All variables except differentiation strategy, hybrid strategy and marketing capability	Control variables plus hybrid strategy and marketing capability	Control variables plus differentiation strategy
Cost leadership strategy		**-1.25 (0.50)		
Differentiation strategy				**2.48 (0.53)
Focus strategy		-1.21 (0.81)		
Hybrid strategy			-0.31 (0.42)	
R&D capability		**1.16 (0.27)		
Marketing capability			*0.15 (0.07)	
Operations capability		2.80 (6.45)		
Type of passenger car	0.18 (0.11)	-0.05 (0.13)	0.13 (0.11)	0.06 (0.11)
European origin	-0.49 (0.38)	**-1.99 (0.57)	-0.66 (0.39)	**-1.19 (0.44)
Constant	0.44 (0.52)	-2.75 (1.62)	-0.07 (0.65)	0.52 (0.54)
-2 Log likelihood	173.33	124.34	166.70	143.63
Nagelkerke's R^2	0.05	0.44	0.11	0.30
Hosmer-Lemeshow test (significance)	0.01	0.42	0.54	0.06
n	148	148	148	148

** $p < 0.01$ level (2-tailed).
* $p < 0.05$ level (2-tailed).
Note: The figures for the variables and the constant are their estimates and (standard errors).

Model 2 tests the hypotheses for cost leadership strategy, focus strategy, R&D capability and operations capability. These variables improve the predictability of the manufacturing location choice significantly as Nagelkerke's R^2 improves from 0.05 in the base model (Model 1) to 0.44 in Model 2. Model 2, which also exhibits a very good fit to predict manufacturing location choice with a Hosmer-Lemeshow significance of 0.42, confirms that while cost leadership strategy (estimate = -1.25, $p< 0.01$) has a significant preference in favour of cost advantage countries, R&D capability (estimate = 1.16, $p< 0.01$) has a significant preference in favour of differentiation advantage countries. As a result, *Hypothesis 1 and Hypothesis 5 are both accepted*. Model 2 further suggests that neither focus strategy nor operations capability match with the CSAs of cost advantages and differentiation advantages. These results lead to *the acceptance of Hypothesis 3 and the rejection of Hypothesis 7*.

Finally, Model 4 tests the hypothesis for differentiation strategy. This strategy (estimate = 2.48, $p< 0.01$) has a strong preference in favour of differentiation advantage countries, and it also improves the predictability of the manufacturing location choice significantly as Nagelkerke's R^2 improves from 0.05 in Model 1 to 0.30. As such, *Hypothesis 2 is accepted*.

Model 3 tests the hypothesis for hybrid strategy and marketing capability. The model has a good fit with a Hosmer-Lemeshow significance of 0.54, and it improves the predictability of the manufacturing location choice vs. Model 1 as Nagelkerke's R^2 increases from 0.05 to 0.11. Results highlight that whereas hybrid strategy has no significant preference between the two types of CSAs, marketing capability (estimate = 0.15, $p<0.05$) has a preference in favour of differentiation advantage countries. As a result, *both Hypothesis 4 and Hypothesis 6 are accepted*.

The results from the tests confirm the two types of fit that were suggested in section 4.1 based on the analysis of the Spearman's correlation statistics. Namely, manufacturing in countries with the CSA of differentiation advantages fits with product categories that pursue differentiation strategy and that also have strong R&D and marketing capabilities. Secondly, manufacturing in countries with the CSA of cost advantages fits with product categories that pursue cost leadership strategy.

5. Discussion

5.1 Is competitive strategy the bridge between CSAs and FSAs?

This research tested at passenger car model level the impacts of competitive strategies and FSAs on the choices of manufacturing locations with respect to their fit with CSAs. Results suggest that differentiation strategy and the FSAs of R&D capability and marketing capability fit well with the CSA of differentiation advantages in manufacturing location decisions. Since the FSAs of R&D capability and marketing capability also correlate positively with differentiation strategy, it is possible to see differentiation strategy as a bridge between the CSA of differentiation advantages and the FSAs of R&D capability and marketing capability. This makes sense because in differentiation strategy the aim is to create a differentiated product with superior attributes vs. competitors and to develop its brand equity (see Miller, 1992; Nath et al., 2010; Porter, 1980, 1985). This requires investments in product development and marketing, resulting in higher ratios of R&D expenses and marketing expenses to sales revenues, hence strong R&D and marketing capabilities. The realization of this aim is further augmented by manufacturing in countries that

offer the CSA of differentiation advantages since these advantages further contribute to the development of the FSAs of R&D and marketing capabilities.

The results do not allow to argue for similar bridging of competitive strategy between FSAs and CSAs in the cases of cost leadership strategy, focus strategy and hybrid strategy. Cost leadership strategy fits with the CSA of cost advantages in manufacturing location decisions. It also has negative correlations with the FSAs of R&D capability and marketing capability. These are meaningful in that cost leadership strategy demands savings in all activities including manufacturing, R&D and marketing (Dunning, 1988), resulting in lower ratios of R&D expenses and marketing expenses to sales revenues. These will be achieved through economies of scale thanks to higher manufacturing volumes of standardized products in this strategy. It can be argued that cost leadership strategy demands higher R&D expenses for process development in order to achieve operational effectiveness. This may be true, but the overall R&D spending by type of strategy suggests that the share of R&D expenses for process development is much lower than that for product development. It is also possible to expect a positive correlation between cost leadership strategy and operations capability since both aim to reduce the cost of operations (see Nath et al., 2010; Porter, 1980, 1985; Tan et al., 2007), but it seems that this does not happen to be the case in the European automotive industry. This can be due to the fact that all car manufacturers independent of their competitive strategies are able to achieve operational excellence due to advances in technology. In other words, pursuing a certain type of strategy does not restrict or favour a car manufacturer to develop operations capability. This independence between competitive strategy and operations capability can also result from the possibility that product categories which pursue differentiation

strategy are able to cover their high cost of operations with high prices, resulting in similar gross profit margins with product categories pursuing cost leadership strategy. This possibility questions the viability of using the gross profit margin as a measure of operations capability. Future research could use other measures for this variable to test the relationship. Although focus strategy has a positive correlation with R&D capability, it does not have a significant impact on the manufacturing location choice. This can perhaps be explained by the argument that narrowing the variety of offerings on one or two market segments does not necessarily imply a certain strategic orientation that fits with the two types of CSAs included in this research. As Porter (1980, 1985) suggests, it is probably the application of cost leadership and differentiation strategies at narrow scope (i.e. cost focus strategy and differentiation focus strategy respectively) that matter more. Future research could test (i) whether differentiation focus strategy fits with R&D capability, marketing capability, and the CSA of differentiation advantages; and (ii) whether cost focus strategy fits with the CSA of cost advantages in explaining manufacturing location decisions. Finally, hybrid strategy has no specific fit with any of the FSAs and CSAs included in this research. This can be due to the fact that hybrid strategy is the simultaneous pursuing of the strategies of cost leadership and differentiation (Proff, 2000; Salavou, 2015). As a result, it can be concluded that while it is possible to identify a bridging effect of differentiation strategy between the FSAs of R&D capability and marketing capability and the CSA of differentiation advantages, further research is needed to better understand the bridging roles and mechanisms of cost leadership, focus and hybrid strategies.

5.2 Contributions

This research has two main contributions. The first one lies in that relationships between competitive strategies, FSAs, CSAs and manufacturing location choice have not been tested before (Sethi et al., 2011). Buckley (2017) argues that there is still a need to understand the interplay between FSAs and host country CSAs in explaining location decisions. Mudambi et al. (2018) see the coevolution of MNEs and geographic locations as an important research avenue. However, it is not an easy task to empirically test the links between FSAs and CSAs because both FSAs and CSAs are broad and sometimes difficult to measure (Buckley, 2017; Rugman, 2010). By making an attempt in this direction this research finds out that differentiation strategy links the FSAs of R&D capability and marketing capability with the CSA of differentiation advantages, and that cost leadership has a significant impact on the choice to manufacture in locations with cost advantages. These findings make a contribution to better understanding manufacturing location choices by proposing an explanation on why not all types of CSAs are equally valuable to different firms and their product categories (see Buckley, 2017; Buckley et al. 2012; Dunning and Lundan, 2008b; Gugler, 2017; Hennart, 2012, 2018; Kim and Aguilera, 2016; Rugman, 2010; Zaheer and Nachum, 2011). At the same time they also contribute to establish links between the disciplines of IB and strategic management (see Davis et al., 2000; Dess et al., 1995; Harzing, 2002).

The second contribution concerns the unit of analysis adopted in this research. The choice of the unit of analysis at product category level is novel in that most of the earlier studies on CSAs and FSAs have been conducted at firm level (Rugman and Li 2007). Findings from the research suggest that it is possible to get a more accurate analysis by studying location choices at product category level because different product

categories pursue different competitive strategies and have different FSAs. As a result, a firm can decide to manufacture its products in different locations based on the appropriate fit of their competitive strategies and FSAs with host country CSAs. Had this research been carried out at firm level, it would not have been possible to integrate competitive strategies into the framework and come up with the current results. This observation questions whether future research should continue to study firm level attributes or take a step further and study also attributes at product category level. Lack of availability of data at product category level may be a possible hindrance against the adoption of this unit of analysis.

5.3 Limitations and directions for future research

This research was subject to a number of limitations which offer possibilities for future research. First, there were challenges in finding suitable measures for the FSAs that have available data at product category level. This limited the choice of FSAs to R&D capability, marketing capability and operations capability. Future research can consider to integrate other FSAs (e.g., financial capability) based on availability of data. As discussed earlier, future research should also use a variety of measures for FSAs, especially for operations capability. Second, since data was available for R&D expenses, marketing and distribution expenses, gross profit margin, and sales revenues at brand level (e.g., Audi), the same percentages were assumed for all models of the same brand (e.g., Audi A4, A5, and A6) for R&D capability, marketing capability, and operations capability. This assumption is realistic and does not disturb the results because new innovations from R&D activities are applied to all

models of the same brand, and marketing activities (e.g., advertisements) are usually carried out for the whole brand. Future research could collect primary data at model level directly from the manufacturing facilities of car manufacturers in order to be more accurate. Third, this research focused on the CSAs of cost advantages and differentiation advantages. Future research can study other types of CSAs, especially institutional advantages. Fourth, this research was conducted in the context of the European automotive industry. Future research can look into the relationships between competitive strategies, FSAs, CSAs and manufacturing location choice in different industries and geographical settings. This will further test the generalizability of the findings. Fifth, this research studied manufacturing location choices. Future research can explore and test the impacts of competitive strategies and FSAs on other types of activities such as R&D. Sixth, this was a quantitative study. In-depth case studies of specific location choices can provide rich insights on how managers perceive the fit between competitive strategies, FSAs and host country CSAs before making their manufacturing location choices. Longitudinal analysis of in-depth case studies following the manufacturing location decisions could increase understanding on how host country CSAs are exploited or fail to be exploited in developing FSAs (Buckley, 2017). Seventh, as Dess et al. (1995) suggest, an interesting avenue for future research would be to examine possible systematic linkages between competitive strategy and international strategy in the light of host country CSAs in making manufacturing location choices. Eighth, as discussed earlier, this research identified links for the differentiation strategy, but more research is needed to study possible links for cost leadership strategy, focus strategy and hybrid strategy. Ninth, it would be interesting to compare the performance implications for the different types of manufacturing location choices considering their fit with corresponding competitive strategies, FSAs and CSAs. Finally,

Hypothesis 3 tested the impact of focus strategy in general on the manufacturing location choice. Future research can test the impacts of cost focus strategy and differentiation focus strategy, which was not possible in this research due to the small sizes of the corresponding subsets of the sample.

5.4 Managerial and policy implications

The finding that cost leadership strategy favours cost advantage countries and differentiation strategy favours differentiation advantage countries for manufacturing has an important implication for managers of MNEs and policy makers of host countries. Based on this finding managers should first assess the competitive strategies of their product categories and then decide about manufacturing locations based on the fit of the competitive strategies with host country CSAs. In doing that they should take into consideration the regional nature of their industries as well as the hidden costs of offshoring (Johansson and Olhager, 2018; Larsen et al., 2013; Larsen, 2016). Policy makers of host countries, on the other hand, should understand the CSAs of their countries and target to attract manufacturing FDI for product categories of MNEs with matching competitive strategies and FSAs.

Based on the descriptive statistics, 45.3% of car models pursue differentiation strategy, 28.4% pursue hybrid strategy, and 26.4% pursue cost leadership strategy. Looking at the fact that 70.9% of the car models are manufactured in differentiation advantage countries, and the remaining 29.1% are manufactured in cost advantage countries, it can be said that in the European automotive industry differentiation advantages are more

in demand than cost advantages also by models pursuing hybrid strategy. The implications of this finding are different for managers and policy makers. Managers in the European automotive industry have realized that competing purely on cost leadership strategy is not viable especially in the affluent markets in Western Europe. As more and more car models are trying to differentiate themselves from competitors, investing in R&D capability and marketing capability should be the priority in comparison to investing in operations capability. This implies for policy makers from cost advantage countries that in the long-run they need to invest in developing also differentiation advantages if they want to attract FDI from car manufacturers. Policy makers from differentiation advantage countries, on the other hand, should continue to invest in their countries' differentiation advantages in order to retain the production of models pursuing differentiation and hybrid strategies. One final implication concerns policy makers of countries such as Belgium and Italy, which offer neither cost advantages nor differentiation advantages, and managers of car models that are manufactured in these countries. Since manufacturing in "no advantage" countries is not a viable choice in the long-run, managers should reconsider their decisions in order to remain competitive, and policy makers should develop policies in order to cultivate differentiation advantages and/or cost advantages. Significant losses of production in Belgium (from 917,513 cars in 1999 to 265,958 cars in 2018) and Italy (from 1,410,459 cars in 1999 to 670,932 cars in 2018) are clear evidences of this unfortunate implication (see International Organization of Motor Vehicle Manufacturers, 2019).

References

Acquaah, M. and Yasai-Ardekani, M. (2008), "Does the implementation of a combination competitive strategy yield incremental performance benefit? A new perspective from transition economy in Sub-Saharan Africa", *Journal of Business Research*, Vol. 61 No. 4, pp. 346-354.

Agarwal, S. and Ramaswami, S. N. (1992), "Choice of foreign market entry mode: impact of ownership, location and internationalization factors", *Journal of International Business Studies*, Vol. 23 No. 1, pp. 1-27.

Akan, O., Allen, R. S., Helms, M. M. and Spralls III, S. A. (2006), "Critical tactics for implementing Porter's generic strategies", *Journal of Business Strategy*, Vol. 27 No. 1, pp. 43-53.

Allen, R. S. and Helms, M. M. (2006), "Linking strategic practices and organizational performance to Porter's generic strategies", *Business Process Management Journal*, Vol. 12 No. 4, pp. 433-454.

Banalieva, E. R. and Dhanaraj, C. (2013), "Home-region orientation in international expansion strategies", *Journal of International Business Studies*, Vol. 44 No. 2, pp. 89-116.

Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.

Bhaumik, S. K., Driffield, N. and Zhou, Y. (2016), "Country specific advantage, firm specific advantage and multinationality – Sources of competitive advantage in emerging markets: Evidence from the electronics industry in China", *International Business Review*, Vol. 25 No. 1 Part A, pp. 165-176.

Buckley, P. J. (2017), "The competitiveness of emerging country multinational enterprise: Does it derive from CSAs or FSAs?", *Competitiveness Review: An International Business Journal*, Vol. 27 No. 3, pp. 208-216.

Buckley, P. J. and Casson, M. (2010), "Marketing and the multinational: Extending internalisation theory", *Journal of the Academy of Marketing Science*, Vol. 39 No. 4, pp. 492-508.

Buckley, P. J., Forsans, N. and Munjal, S. (2012), "Host-home country linkages and host-home country specific advantages as determinants of foreign acquisitions by Indian firms", *International Business Review*, Vol. 21 No. 5, pp. 878-890.

Claver-Cortés, E., Pertusa-Ortega, E. M. and Molina-Azorín, J. F. (2012), "Characteristics of organizational structure relating to hybrid competitive strategy: Implications for performance", *Journal of Business Research*, Vol. 65 No. 7, pp. 993-1002.

Cornell University, INSEAD and WIPO (2017), *The Global Innovation Index 2017: Innovation Feeding the World*, Ithaca, Fontainebleau, and Geneva.

Crescenzi, R., Pietrobelli, C. and Rabellotti, R. (2014), "Innovation drivers, value chains and the geography of multinational corporations in Europe", *Journal of Economic Geography*, Vol. 14 No. 6, pp. 1053-1086.

Curran, L. and Ng, L. K. (2018), "Running out of steam on emerging markets? The limits of MNE firm-specific advantages in China", *Multinational Business Review*, Vol. 26 No. 3, pp. 207-224.

Dachs, B., Kinkel, S., Jäger, A. and Palcic, I. (2019), "Backshoring of production activities in European manufacturing", *Journal of Purchasing and Supply Management*, Vol. 25 No. 3, June 2019, 100531.

Davis, P. S., Desai, A. B. and Francis, J. D. (2000), "Mode of international entry: An isomorphism perspective", *Journal of International Business Studies*, Vol. 31 No. 2, pp. 239-258.

Dess, G. G., Gupta, A., Hennart J-F. and Hill, C. W. L. (1995), "Conducting and integrating strategy research at the international, corporate and business levels: Issues and directions", *Journal of Management*, Vol. 21 No. 3, pp. 357-393.

Dixit, A., Clouse, C. and Turken, N. (2019), "Strategic business location decisions: Importance of economic factors and place image", *Rutgers Business Review*, Vol. 4 No. 1, pp. 73-91.

Dunning, J. H. (1988), "The theory of international production", *The International Trade Journal*, Vol. 3 No. 1, pp. 21-66.

Dunning J. H. and Lundan, S. M. (2008a), *Multinational Enterprises and the Global Economy*, Edward Elgar Publishing, Cheltenham.

Dunning, J. H. and Lundan, S. M. (2008b), "Institutions and the OLI paradigm of the multinational enterprise", *Asia Pacific Journal of Management*, Vol. 25 No. 4, pp. 573-593.

Enright, M. J. (2009), "The location of activities of manufacturing multinationals in the Asia-Pacific", *Journal of International Business Studies*, Vol. 40 No. 5, pp. 818-839.

Estrin, S., Meyer, K. E. and Pelletier, A. (2018), "Emerging economy MNEs: How does home country munificence matter", *Journal of World Business*, Vol. 53 No. 4, pp. 514-528.

European Automobile Manufacturers' Association (2019), available at http://www.acea.be/ (accessed on 26 July 2019).

Eurostat (2017), "Hourly labor costs", available at http://ec.europa.eu/eurostat/statistics-explained/index.php/Hourly_labour_costs (accessed on 26 July 2019).

Gao, Q., Li, Z. and Huang, X. (2019), "How EMNEs choose location for strategic asset seeking in internationalization?", *Chinese Management Studies*, Vol. ahead-of-print No. ahead-of-print, available at https://doi.org/10.1108/CMS-06-2018-0573 (accessed on 26 July 2019).

Ghemawat, P. (2003), "Semiglobalization and international business strategy", *Journal of International Business Studies*, Vol. 34 No. 2, pp. 138-152.

Gopalakrishna, P. and Subramanian, R. (2001), "Revisiting the pure versus hybrid dilemma", *Journal of Global Marketing*, Vol. 15 No. 2, pp. 61-79.

Graham, M. H. (2003), "Confronting multicollinearity in ecological multiple regression", *Ecology*, Vol. 84 No. 11, pp. 2809-2815.

Gugler, P. (2017), "Emerging countries' country-specific advantages (CSAs) and competitiveness of emerging market multinational enterprises (EMNEs)", *Competitiveness Review: An International Business Journal*, Vol. 27 No. 3, pp. 194-207.

Harzing, A-W. (2002), "Acquisitions versus greenfield investments: International strategy and management of entry modes", *Strategic Management Journal*, Vol. 23 No. 3, pp. 211-227.

He, S., Khan, Z., Lew, Y. K. and Fallon, G. (2019), "Technological innovation as a source of Chinese multinationals' firm-specific advantages and internationalization", *International Journal of Emerging Markets*, Vol. 14 No.1, pp. 115-133.

Henisz, W. J. and Delios, A. (2001), "Uncertainty, imitation, and plant location: Japanese multinational corporations, 1990-1996", *Administrative Science Quarterly*, Vol. 46 No. 3, pp. 443-475.

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*, Vol. 40 No. 9, pp. 1432-1454.

Hennart J-F. (2012), "Emerging market multinationals and the theory of the multinational enterprise", *Global Strategy Journal*, Vol. 2 No. 3, pp. 168-187.

Hennart J-F. (2018), "Springing from where? How emerging market firms become multinational enterprises", *International Journal of Emerging Markets*, Vol. 13 No.3, pp. 568-585.

International Organization of Motor Vehicle Manufacturers (2019), available at http://www.oica.net/ (accessed on 26 July 2019).

Jain N. K., Kothari, T. and Kumar, V. (2016), "Location choice research: proposing new agenda", *Management International Review*, Vol. 56 No. 3, pp. 303-324.

JATO (2019), available at http://www.jato.com/ (accessed on 26 July 2019).

Johanson, J. and Vahlne, J-E. (2010), "Markets as networks: Implications for strategy-making", *Journal of the Academy of Marketing Science*, Vol. 39 No. 4, pp. 484-491.

Johansson, M. and Olhager, J. (2018), "Manufacturing relocation through offshoring and backshoring: the case of Sweden", *Journal of Manufacturing Technology Management*, Vol. 29 No. 4, pp. 637-657.

Kim, E., Nam, D. and Stimpert, J. L. (2004), "The applicability of Porter's generic strategies in the digital age: assumptions, conjectures, and suggestions", *Journal of Management*, Vol. 30 No. 5, pp. 569-589.

Kim, J. U. and Aguilera, R. V. (2016), "Foreign location choice: Review and extensions", *International Journal of Management Reviews*, Vol. 18 No. 2, pp. 133-159.

Kogut, B. and Zander, U. (1993), "Knowledge of the firm and the evolutionary theory of the multinational corporation", *Journal of International Business Studies*, Vol. 24 No. 4, pp. 625-645.

Larsen, M. M. (2016), "Failing to estimate the costs of offshoring: A study on process performance", *International Business Review*, Vol. 25 No. 1, pp. 307-318.

Larsen, M. M., Manning, S. and Pedersen, T. (2013), "Uncovering the hidden costs of offshoring: The interplay of complexity, organizational design, and experience", *Strategic Management Journal*, Vol. 34 No. 5, pp. 533-552.

Lehmann, A. T. T. and Lehmann, F. (2017), "Outward direct investment by Chinese state-owned enterprises: Can host country policy act as a country-specific advantage?", *Competitiveness Review: An International Business Journal*, Vol. 27 No. 3, pp. 231-252.

Leitner, K. and Güldenberg, S. (2010), "Generic strategies and firm performance in SMEs: A longitudinal study of Austrian SMEs", *Small Business Economics*, Vol. 35 No. 2, pp. 169-189.

Luo, Y. and Tung, R. L. (2007), "International expansion of emerging market enterprises: A springboard perspective", *Journal of International Business Studies*, Vol. 38 No. 4, pp. 481-498

Luo, Y. and Tung, R. L. (2018), "A general theory of springboard MNEs", *Journal of International Business Studies*, Vol. 49 No. 2, pp. 129-152.

Lukas, B. A. and Bell, S. J. (2000), "Strategic market position and R&D capability in global manufacturing industries: Implications for organizational learning and organizational memory", *Industrial Marketing Management*, Vol. 29 No. 6, pp. 565-574.

Miller, D. (1992), "Generic strategies: Classification, combination, and context", in Shrivastava, P., Huff, A. and Dutton, J. (Eds.), *Advances in Strategic Management Vol. 8*, JAI Press, Greenwich, pp. 391-408.

Mudambi, R., Li, L., Ma, X., Makino, S., Qian, G. and Boschma, R. (2018), "Zoom in, zoom out: Geographic scale and multinational activity", *Journal of International Business Studies*, Vol. 49 No. 8, pp. 929-941.

Nath, P., Nachiappan, S. and Ramanathan, R. (2010), "The impact of marketing capability, operations capability and diversification strategy on performance: A resource-based view", *Industrial Marketing Management*, Vol. 39 No. 2, pp. 317-325.

Parnell, J. A. (2006), "Generic strategies after two decades: A reconceptualization of competitive strategy", *Management Decision*, Vol. 44 No. 8, pp. 1139-1154.

Pavlinek, P. (2018), "Global production networks, foreign direct investment, and supplier linkages in the integrated peripheries of the automotive industry", *Economic Geography*, Vol. 94 No. 2, pp. 141-165.

Pavlinek, P. (2019), "Restructuring and internationalization of the European automotive industry", *Journal of Economic Geography* (2019), pp. 1-33, available at https://doi.org/10.1093/jeg/lby070 (accessed on 26 July 2019).

Pe'er, A. and Keil, T. (2013), "Are all start-ups affected similarly by clusters? Agglomeration, competition, firm heterogeneity, and survival", *Journal of Business Venturing*, Vol. 28 No. 3, pp. 354-372.

Piekkari, R., Nell, P. C. and Ghauri, P. N. (2010), "Regional management as a system: A longitudinal case study", *Management International Review*, Vol. 50 No. 4, pp. 513-532.

Porter, M. E. (1980), *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. Free Press, New York.

Porter, M. E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, Free Press, New York.

Porter, M. E. (1990), *The Competitive Advantage of Nations*, The Free Press, New York.

Porter, M. E. (1996). “What is strategy?”, *Harvard Business Review*, Vol. 74 No. 6, pp. 61-78.

Proff, H. (2000), “Hybrid strategies as a strategic challenge: The case of the German automotive industry”, *Omega*, Vol. 28 No. 5, pp. 541-553.

Ral-Trebacz, A., Eckert, S. and Dittfeld, M. (2018), “The value of internationalization: Disentangling the interrelationship between regionalization strategies, firm-specific assets related to marketing and performance”, *Multinational Business Review*, Vol. 26 No. 1, pp. 71-90.

Rose, E. L. and Ito, K. (2009), “Past interactions and new foreign direct investment location decisions: Firm-specific analysis in the global tire industry”, *Management International Review*, Vol. 49 No. 5, pp. 641-669.

Rugman, A. M., (2010), “Reconciling internalization theory and the eclectic paradigm”, *Multinational Business Review*, Vol. 18 No. 1, pp. 1-12.

Rugman, A. M. and Collinson, S. (2004), “The regional nature of the world’s automotive sector”, *European Management Journal*, Vol. 22 No. 5, pp. 471-482.

Rugman, A. M. and Li, J. (2007), “Will China’s multinationals succeed globally or regionally?”, *European Management Journal*, Vol. 25 No. 5, pp. 333-343.

Rugman, A. M. and Nguyen, Q. T. K. (2014), “Modern international business theory and emerging market multinational companies”, in Cuervo-Cazurra, A. and Ramamurti, R. (Eds.), *Understanding Multinationals from Emerging Markets*, Cambridge University Press, Cambridge, pp. 53-80.

Rugman, A. M. and Verbeke, A. (2001), "Subsidiary-specific advantages in multinational enterprises", *Strategic Management Journal*, Vol. 22 No. 3, pp. 237-250.

Salavou, H. E. (2013), "Hybrid strategies in Greece: a pleasant surprise", *European Business Review*, Vol. 25 No. 3, pp. 301-314.

Salavou, H. E. (2015), "Competitive strategies and their shift to the future", *European Business Review*, Vol. 27 No. 1, pp. 80-99.

Santander Consumer Finance (2019), "All-in-1", available at https://www.allinone.fi/ (accessed on 26 July 2019).

Schmid, S. and Grosche, P. (2008), *Managing the International Value Chain in the Automotive Industry*, Bertelsmann Stiftung, Guetersloh.

Schmitt, A. and van Biesebroeck, J. (2013), "Proximity strategies in outsourcing relations: The role of geographical, cultural and relational proximity in the European automotive industry", *Journal of International Business Studies*, Vol. 44 No. 5, pp. 475-503.

Sethi, D., Judge, W. Q. and Sun, Q. (2011), "FDI distribution within China: An integrative conceptual framework for analysing intra-country FDI variations", *Asia Pacific Journal of Management*, Vol. 28 No. 2, pp. 325-352.

Shaver, M. and Flyer, F. (2000), "Agglomeration economies, firm heterogeneity, and foreign direct investment in the United States", *Strategic Management Journal*, Vol. 21 No. 12, pp. 1175-1193.

Tan, K. C., Kannan, V. R. and Narasimhan, R. (2007), "The impact of operations capability on firm performance", *International Journal of Production Research*, Vol. 45 No. 21, pp. 5135−5156.

Teece, D. (2014), "A dynamic capabilities-based entrepreneurial theory of the multinational enterprise", *Journal of International Business Studies*, Vol. 45 No. 1, pp. 8-37.

The Conference Board (2016), "International comparisons of hourly compensation costs in manufacturing, 2015 – summary tables", available at https://www.conference-board.org/ilcprogram/index.cfm?id=38269#Table1 (accessed on 26 July 2019).

Theyel, G., Hofmann, K. and Gregory, M. (2018), "Understanding manufacturing location decision making: Rationales for retaining, offshoring, reshoring, and hybrid approaches", *Economic Development Quarterly*, Vol. 32 No. 4, pp. 300-312.

Zaheer, S. and Nachum, L. (2011), "Sense of place: From location resources to MNE locational capital", *Global Strategy Journal*, Vol. 1 No. 1-2, pp. 96-108.