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Pla-Barber, José; Linares, Esmeralda; Ghauri, Pervez N.

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The Choice of Offshoring Operation Mode: a behavioural perspective

José Pla-Barber Department of Business Studies University of Valencia Avda. De los
naranjos s/n 46022. Valencia.(Spain) Jose.Pla@uv.es

Esmeralda Linares Department of Business Studies University of Valencia Avda. De los
naranjos s/n 46022. Valencia.(Spain) Esmeralda.linares@uv.es

Pervez N. Ghauri Birmingham Business School University of Birmingham Edgbaston
Park Road Birmingham, B15 2YT United Kingdom p.ghauri@bham.ac.uk

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Abstract

Since offshoring has recently become an integral part of corporate strategies, choosing the specific offshoring operation mode is a crucial aspect for CEOs. Using a sample of 466 offshoring operations, this study analyses offshoring mode decisions from the rationale of the Theory of Planned Behaviour (TPB). Drawing on this perspective, our results indicate that this decision seems to be clearly influenced by the manager's intentions and partially determined by some competences originated in the resources and experience of the firm. Additionally and contrary to the common view in the field, our findings suggest that instead of being a possible intermediate option between the 'make or buy' decision, concurrent offshoring can in fact constitute a final state in the evolution of MNE strategies.

Keywords Offshoring, operation mode, managerial attitudes, managerial behaviour, Theory of Planned Behaviour

The Choice of Offshoring Operation Mode: a behavioural perspective

INTRODUCTION

A salient outcome of globalization has been the emergence and growth of global outsourcing and offshoring activities. Developed market firms have widely embraced these strategies to reduce costs, improve efficiency, and sustain competitiveness (Buckley & Ghauri, 2004; Contractor et al., 2010; Maskell et al., 2007; Askin & Masini, 2008; Jensen & Petersen, 2013; Größler, et al., 2013; Brennan et al., 2015). This wave of offshoring and relocation of value chain activities has been fuelled by liberal changes in the political and regulatory environments of host and home countries. Other contributing factors include more efficient, less expensive information and communication technologies, as well as new techniques for organizing the value chain, such as fine slicing and standardization of interfaces among activities (Pedersen et al., 2013).

Offshoring strategies are attempts by firms to disaggregate their value chains globally and to integrate the comparative advantages of geographic locations with the competitive advantages of firm resources and competencies (Buckley & Ghauri, 2004).

Our study focuses on offshoring operations and, in particular, seeks to better understand the linkages between managerial attitudes and the offshoring operation mode choice: captive models, offshore outsourcing models, and concurrent models. Captive models entail locating organizational functions within wholly owned subsidiaries in foreign countries, whereas offshore outsourcing refers to outsourcing organizational activities to vendors situated in foreign countries (Pyndt & Pedersen, 2006). Concurrent sourcing models differ in that they engage in both making and buying simultaneously the same activity of the value chain (Parmigiani, 2007). The importance of this choice

has been shown in some noteworthy contributions (Mudambi & Venzin, 2010; Nieto & Rodríguez, 2011; Roza et al., 2011; Hutzschenreuter et al., 2011; Larsen et al., 2013; Elia et al., 2014; Nordigården et al., 2014). However, there is still room for further contribution as the overall understanding of how managers make a selection and what constitutes the heuristic decision remains somewhat unclear.

Our study extends the offshoring operations research in several ways. First, we enhance the field applying a general model based on the Theory of Planned Behaviour (TPB) (Ajzen, 1988, 2002). The TPB has been widely used to analyse the link between individuals' intentions and organizational behaviour in various fields of management such as entrepreneurship (Kolvereid & Isaksen, 2006), export activities (Acedo & Galán, 2011; Morgan & Katsikeas, 1997) or business growth (Wiklund & Shepherd, 2003). However, TPB has rarely been applied to study offshoring operations. We make this additional effort providing a new theoretical approach as there is an increasing recognition that operations management scholars should employ multiple theories from different disciplines to understand the complex nature of the offshoring lens (Mudambi & Verzin, 2010)

Why companies use different offshoring operation modes? In this paper, we answer this key question using the argument that the choice will largely depend on the managers' attitude (Hutzschenreuter et al., 2007; Maskell et al., 2007; Lewin & Volverda, 2011). Managers have cognitive models that influence how they interpret the changes in their environment and how their interpretation leads to specific strategic choices. These models will impact significantly on the actions they can take (Ajzen, 1991). In this sense, we stress the role of management in terms of operations choice. We review and empirically examine four primary beliefs and attitudes about offshoring

activities, related to cost cutting goals, market competitiveness, resource-seeking, as well as imitation issues.

Interestingly, although there have been many studies identifying various offshoring drivers, few have approached the phenomenon in a comprehensive manner, both theoretically and empirically, to connect these drivers to specific offshoring operation choices. We integrate the aforementioned four offshoring motivations with choices of three offshoring operation modes. Our results substantiate the theoretical claim that attitude matters and the interplay of control and flexibility is central to linking offshoring motivations and operations modes.

Second, we extend the existing knowledge by enhancing our understanding of the concurrent offshoring model. Although important in the strategy literature, concurrent offshoring has rarely been addressed in the offshoring operations literature. While outstanding developments by Parmigiani (2007) and Parmigiani & Mitchell (2009) discuss the simultaneous use of both strategic options, this contribution is limited to a sample of small and relatively simple firms in one single industry. Here we extend those contributions by including multinational firms within a wide range of industries and activities. Specifically, earlier research (Parmigiani, 2007) has pointed at the importance of this strategy as a discrete and different option to internal offshoring. Related to this issue, we aim to obtain more idiosyncratic findings in our sample of multinational firms in that concurrent offshoring could be framed as a final stage in the evolution of the MNE strategies, i.e., a transformational global sourcing strategy (Linder, 2004; Jensen & Petersen, 2013).

A final contribution is empirical. The proposed hypotheses are tested on a unique dataset covering 263 managers' responses assessing 466 offshoring operations. This dataset allows us to study offshoring decisions in a disaggregated activity level

rather than in an aggregated firm or industry levels, being the latter typically the focus of attention in extant research.

The remainder of the paper is organized as follows. The second section provides the theoretical background. We define the three offshoring operation modes drawing on a control/flexibility framework and present our general model based on the Theory of Planned Behaviour. Following this control/flexibility rationale, we link the managers' attitude to the offshoring operation choice and present our hypotheses. In the subsequent sections, methodological issues and major results and discussion are then provided. Finally, we conclude with a discussion on the contributions and limitations of this study.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Offshoring operation modes: a control/ flexibility framework

Previous research defines offshoring as the relocation of processes and /or activities into other countries (Levy, 2005). However, this relocation can be done in different ways. The company can outsource these activities to independent companies located in a foreign country (external offshoring) or it can perform these activities through its own subsidiary located in another country (internal offshoring).

The Transaction Cost Theory considers sourcing decisions as a dichotomous choice between *making* and *buying* (Williamson, 1975), to which Parmigiani (2007) added concurrent sourcing. Concurrent sourcing models differ in that they engage in both making and buying simultaneously the same product or service (Parmigiani, 2007). Specifically in our context, firms adopting a concurrent sourcing model conduct the same activity of the value chain simultaneously by outsourcing to other firms in foreign countries and through wholly-owned foreign subsidiaries.

Despite its apparent benefits, offshoring also poses challenges that firms have to cope with. Offshoring can lead to dependence on outside suppliers for services and difficulties in managing relationships with foreign vendors (Currie & Willcocks, 1997). However, a particularly challenging issue that most firms encounter in offshoring is the trade-off between control and flexibility (Quinn & Hilmer, 1994). The environment where companies operate today – dynamics and volatiles – need flexibility as a valuable capability (Scherrer-Rathje, et al., 2014). Depending on the company's control and flexibility needs, there exists a wide spectrum of offshoring options. Captive models offer firms full control over their offshored units in a foreign country due to ownership, yet foreign subsidiaries are more costly and lack sufficient flexibility due to the high level of commitment involved (Oshri et al., 2009). In contrast, offshore outsourcing offer firms greater flexibility, but poses a significant control challenge for sourcing firms since the counterpart is an independent entity. In terms of control and flexibility, concurrent models are situated somewhere between captive models and offshore outsourcing models yet are particularly costly and expensive to implement because the offshoring firm must incur the costs of both making as well as outsourcing (Parmigiani, 2007). In such case, the benefits must outweigh the costs.

Organizational control is defined as any process whereby managers direct attention, motivate, and encourage organizational members to achieve the organization's objective (Jaeger & Baliga, 1985; Merchant, 1988). Therefore, the essence of organizational control is to direct resources and capabilities to realize present goals.

Flexibility refers to the ability to respond to new information and changing conditions. There are two important aspects to flexibility -output and decision flexibility-, related to commitment and control respectively. Specifically, firms' ability

to adjust their production functions encompasses a close association with their ability to handle fluctuating market demands (Sheshinski & Dreze, 1976). Low levels of fixed investment can lead to high levels of output flexibility. Firms with high levels of fixed investment tend to incur more losses under changing conditions than those with low levels because it is easier to adjust variable costs of production than fixed costs. However, decision flexibility is also critical to firms' capability to cope with uncertain environments. Flexibility has a short and long-term strategic orientation. In the short-term, it is the way to solve the problems of the turbulent environment; while in the long-term, flexibility has ability to add capabilities to the system (Tamayo-Torres et al., 2014). Higher levels of control, such as in subsidiaries but not in outsourcing, enable quicker and more adaptive decision making (Williamson, 1975). Thus, though both control and commitment-related flexibility enable firms to respond to changes in a timely and effective manner, there is a trade-off between the two. On the one hand, a high level of uncertainty and unpredictability in external environment require a high level of flexibility in firms. On the other, attaining such flexibility through lower commitment forms such as outsourcing pose obvious challenges to organizational control, which in turn can complicate decision-making.

Captive models call for significant amounts of fixed investment; thus, firms have less flexibility to cope with fluctuating market demands. By adopting a captive model, firms' foreign subsidiaries may not have a sufficient level of flexibility to respond to changing external environments and demands in a timely manner. Additionally, capital constraints are very important in the choice of the optimal procurement governance mode. As captive models are more capital intensive than others offshoring models, tighter capital constrain encourages offshore outsourcing or concurrent sourcing (Lambrecht et al., 2015).

Offshore outsourcing affords greater such flexibility but takes along an apparent control challenge for sourcing firms by impeding administrative flexibility. Here, sourcing firms cannot resort to formal or informal control mechanisms to align the goals of foreign vendors with theirs but have to rely on legal protection of contracts. In terms of control and flexibility, concurrent models are situated somewhere between captive models and offshore outsourcing models. Sourcing firms have restricted control over their external partners, yet their business is more inherently integrated with the latter's in a concurrent model than the case with the offshore outsourcing model. Correspondingly, sourcing firms possess greater leverage over their foreign partners in a concurrent model than in an offshore outsourcing model. Similarly, the concurrent model enables sourcing firms to reduce their fixed investment by shortening their value chain, thus contributing to increased output flexibility (see Figure 1).

*** Insert figure 1 about here***

The issue of control and flexibility in offshoring is in essence a question of how to structure internal versus external sourcing optimally (Quinn & Hilmer, 1994). The degree of control and flexibility is closely related to the interplay between costs and benefits stemming from offshoring activities. In this sense, choosing the optimal offshoring operation mode is a key strategic decision that deals with complex and ambiguous issues, and requires the commitment of a large amount of resources from the organization (Mintzberg, Raisinghani, & Theoret, 1976).

The Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (Ajzen, 1991, 1998) provides parsimonious explanations of motivational influences on behaviour. According to the TPB, intention is assumed to be the antecedent of behaviour. Intentions represent a person's motivation

in the sense of his/her conscious plan or decision to exert effort to enact the behaviour. Following Hutzschenreuter et al. (2007), human intentions' in general are very rational, while managers' intentions (called managerial intentionality) can be expected to be a mix of diverse goals and metrics. Ajzen (2002) established that behavioural intentions are determined by: (1) the attitude toward the behaviour (*behavioural beliefs*) stated as the degree in which an individual has a favourable or unfavourable evaluation of the behaviour in question; (2) subjective norms (*normative beliefs*) that refer to the perceived social pressure to perform (or not perform) the behaviour and (3) beliefs about the presence of factors that may further or hinder performance of the behaviour (*control beliefs*). Subsequent research (Conner & Armitage, 1998) provided support for the efficacy of the TPB as a predictor of intentions and behaviour. The results of this meta-analysis showed that attitude was the strongest predictor of behaviour followed by perceived behavioural control and subjective norms respectively.

In International Business (IB) the attitude of the decision-maker is a significant element in the choice to internationalise and in the selection of the governance mode (Game & Apfelthaler, 2016). There are some studies that prove these relationships (Calof & Beamish, 1995; Maignan & Lukas, 1997; Sousa et al., 2008). For example, to select or change a foreign market entry mode, Calof & Beamish (1995) showed that intuitions or attitudes of managers are important drivers in this key decision. In fact, some authors have warned about a possible underestimation of the link between managers' attitudes towards exporting and firm export performance (Axinn, 1988). Even in the field of offshoring, Musteen (2016) finds evidence that some managers' attitudes explain a more complete picture of the offshoring decision for companies across different industries and different stages of the lifecycle.

From this behavioural approach, the choice of the offshoring operation mode is an intentional-planned major strategic issue. As we have explained previously, each mode (external, internal or concurrent) has its intrinsic advantages and disadvantages, with the balance of short-term and long-term strategic benefits. The specific choice is the direct outcome of managers' intentions and subsequent actions. Following TPB reasoning, managers' intentions are the best predictors of managers' behaviour; and managers' attitudes, feelings of social pressure and perceived control are predictors of managers' intentions (Game & Apfelthaler, 2016). In this sense, managers' intentions are the result of a combination of factors that influence the final offshoring operation choice. Managers' attitudes are one of the main predictor factors. According to Sommer (2010), "the attitude is the sum of relevant beliefs about consequences of particular behaviour". Attitude is a dynamic element in human behaviour; it is the motivation for activity or influencer for the decision point (Lumley, 1928). Managers' attitudes regarding offshoring operation are assumed to capture the motivation (offshoring drivers) that influence on managers' intentions to implement the offshoring operation mode.

Although attitudes are important predictors of intentions, the TPB additionally suggest the influence of social pressure to exhibit or not a behaviour. In our specific case, the rapid diffusion of the offshoring strategy by Western firms has eclipsed the political, academic and economic debate around the benefits and risks that are commonly expected. This social debate (Egger & Egger, 2006; Olsen, 2006; Arik, 2013; Egger et al., 2015; González-Díaz & Gandoy, 2016) has been focused on the negative consequences that this strategy has on the economy in the countries of origin; these include impacts such as industrial dismantling, relocation of production or reduction of national employment, among others. However, this social negative

perception about the use of these strategies may vary depending on the type of firm. For instance, managers in family firms could feel higher social pressures than managers from non-family firms. Family-owned firms tend to be very integrated into local culture and traditions with a strong culture focused on continuity and long-term relationships (Venohr & Meyer, 2009). In fact, emotions could play a relevant role in managerial decisions, especially in family firms where the decision making is not entirely systematic and the firm's routines are not so well established. In a recent study, Musteen (2016) found that patriotism, or emotional attachment to one's country, either directly affected the choice of performing business activities offshore or made the decision making process more conflicted. Finally, the TPB suggest that motivation (attitude) and competence (perceived behavioural control) interact to determine the intention and consequently the behaviour. The resources available to a manager must shape -to some extent- the likelihood of behavioural achievement (Ajzen, 1991). Some firm specific factors such as size, experience or type of activity (e.g. Roza et al., 2011; Jensen & Petersen, 2013), for example, could be important to determine the resources and opportunities to exhibit a behaviour.

Our general conceptual model is shown in Figure 2. The model shows the relationship between behaviour (managers' decision about offshoring operation mode) and several predictor factors influencing managers' intention (attitudes, social pressures and competences). However -as in previous studies applying TPB (Wilkund & Shepherd, 2003; Acedo & Galán, 2011) - not all the relationships drawn in the model are developed in hypotheses. This does not mean that we do not analyse all the relationships in the model; nevertheless, we mainly focus our attention on the direct effects of the main predictor (*managers' attitudes*) and we control for social pressures

and competences. These direct effects are explained from a control/flexibility vantage point of view.

Insert figure 2 about here

Hypotheses development

To gain a better insight on why one offshoring operation mode is favoured over the other, it is important to first analyse managers' attitudes regarding offshoring. Following the TPB perspective, managers' attitudes are one of the main predictor of managers' intentions and consequently of managers' behaviours in the final offshoring operation choice.

There is a large body of global management literature concerning the drivers of offshoring (e.g. Lewin & Peeters, 2006; Maskell et al., 2007, Kinkel & Maloca, 2009; Kinkel, 2012; Roza, et al., 2011; Benito, 2015; Cuervo-Cazurra & Narula, 2015). From this literature, four intentions are identified as primary drivers behind managers' offshoring decisions: cost cutting, market competitiveness factors, resource seeking motivation, and industry practice.

Cost cutting intention

Cost cutting has been traditionally considered managers' primary motivation for offshoring (Kinkel, 2012; Größler, et al., 2013). Classical studies in the 1970s (Stopford & Wells, 1972; Vernon, 1979) showed how U.S MNCs offshored labor-intensive manufacturing processes to low-cost production countries. An extensive study on offshoring activities by the Offshoring Research Network concluded that most Western companies offshore primarily to cut labour costs and to induce other short-term costs (Lewin & Peters 2006). Offshoring enables managers to cut labour costs with respect to not only low-skilled but also high-skilled labour in less-developed countries. For example, McFarlan & Nolan (1995) found that the primary driver for managers in the

developed world to outsource their IT functions was to access low-cost specialized IT technicians in countries such as India.

The uncertainty associated with demand volumes may cause inefficiencies in terms of production capacity and consequently increases in costs (Hansen et al., 2011; Mols, 2010b; Parmigiani, 2007). Therefore, if cost reduction is the managers' prime belief or motivation, they will choose the least costly offshoring operation mode. Thus, the offshoring operation choice will depend on the capacity of each offshoring operation mode to reduce costs. In this sense, external offshoring allows firms to transfer to third parties the costs of changes in demand and higher fixed costs, while internal offshoring would pay for those unpredictable changes. Additionally, by outsourcing non-core activities abroad, firms can narrow the scope of their value chain and shorten vertical links in the production process in-house (Pedersen et al., 2013). A shorter value chain helps firms further simplify their cost functions. Without the need to invest in plants, property and equipment integral to manufacturing activities, firms can offload fixed asset investment to their foreign partners. The reduction in fixed costs thus increases their ability to cope with business downturns. Third, the contracts between offshoring firms and foreign vendors clearly specify the responsibilities of both parties and stipulate the purchasing prices of goods or services. Uncertainties associated with cost control are thereby transferred from offshoring firms to their foreign partners. Moreover, firms are able to forecast their total production costs more accurately with simplified cost functions (Mols, 2010b).

Considering cost cutting motivation as the main driver of offshoring, external outsourcing offers the firm more advantages than internal mode. Concurrent offshoring is positioned as an intermediate alternative between both options. Concurrent offshoring offers the possibility of saving part of the internal costs as well as reducing uncertainty

associated with cost control. In this sense, concurrent offshoring has more advantages than internal offshoring. In fact, there is some empirical evidence enlightening how the use of external operation mode associated with outsourcing can lead to a reduction in costs of up to 40% (BCG, 2005; OECD, 2007). We can then argue that when managers' motivation is based on cost cutting beliefs, his or her intention will commit the lower number of resources. In other words, managers' attitudes based on cost reduction will probably increase managers' intention and behaviour to choose the cheaper offshoring operation mode. Accordingly:

H1a: Managers' attitudes based on cost cutting will favour the intention to choose external offshoring operations versus internal offshoring operations.

H1b: Managers' attitudes based on cost cutting will favour the intention to choose external offshoring operations versus concurrent offshoring operations.

H1c: Managers' attitudes based on cost cutting will favour the intention to choose concurrent offshoring operations versus internal offshoring operations

Market Competitiveness intention

Offshoring not only provides firms with an avenue to reduce costs but also provides them with a means to improve their capabilities to compete. In this sense, research suggests that the offshoring and outsourcing of products and services should become an integral part of an organization's overall strategy (Linder, 2004; Pedersen et al., 2013; Jensen & Petersen, 2013). As global competition intensifies, firms in more and more industries have begun to adopt the geographical dispersion of their value chain activities to create and maintain competitive advantages for strategic considerations such as accessing to new markets, improving product quality, reducing response time to changes and so on (Buckley & Ghauri, 2004; Mudambi & Venzin, 2010; Gerbl et al., 2016). These strategic actions increase market competitiveness (Roza et al., (2011). The

relocation of activities in other countries makes possible to get closer to potential customers and other opportunities. Offshoring is also an expansion strategy to access new markets and growth. Moreover, companies can choose offshoring as differentiation strategy.

When companies use offshoring as differentiation strategy in which quality and speed are critical, control becomes more important than flexibility. Second, to the extent that product quality is pertinent to select segments of the value chain in which the firm has specialized, it would encompass a preference to utilize its superior capabilities in this regard. Third, there is also the concern of knowledge leakage. Here, external offshoring operations would limit the benefit from such recognition since offshoring firms are not directly associated with offshored activities in foreign countries.

Concurrent outsourcing can also be a viable strategy here. First, like captive models, it helps firms accustom themselves to foreign environments and gain local recognition. Second, firms are able to better leverage and coordinate their resources and capabilities with those of their suppliers or contractors. This option allows managers to combine control and flexibility according to their needs. Hence, when managers' attitude is focused on increase market competitiveness, it is very likely that their intention is to carry out more advanced offshoring operation modes. This consideration leads to hypotheses:

H2a: Managers' attitudes focused on increase market competitiveness will favour the intention to choose internal offshoring operations versus external offshoring operations.

H2b: Managers' attitudes focused on increase market competitiveness will favour the intention to choose concurrent offshoring operations versus external offshoring operations.

H2c: Managers' attitudes focused on increase market competitiveness will favour the intention to choose concurrent offshoring operations versus internal offshoring operations.

Resource seeking intention (capabilities focused)

The dynamic balance between the exploitation of the firm's competitive advantages and the development of new ones is an essential source for the continued success of the company (Levinthal & March, 1993; Peng, 2001). Exploitation deals basically with the efficiency, utilization and improvement of the current capabilities, while exploration entails the search for and experimentation of new resources, often based on innovation (Meyer et al., 2009). Under this knowledge view of the firm, we can suggest two main effects in the configuration of the value chain. First, there is an increasing need to out-innovate competitors. The development of these innovation activities may require human or technological resources the company might not possess. Therefore, external offshoring operations provide firms a means to accelerate the access to external resources entering into alliance relationships with other firms (Nieto & Rodríguez, 2011).

Second, the firm needs to concentrate on focused, value-adding activities aligned with the core resources and knowledge base of the firm. In this sense, external offshoring operations enable firms to devote themselves to key activities by narrowing down the scope of their internal value chains. They can thus concentrate on and improve the quality of activities and capabilities that remain within the firm while outsourcing other (non-core) activities to others. By outsourcing peripheral or supplementary businesses to foreign partners, managers can allocate more financial and human capital

to increase specialization in their chosen areas through increased learning, shared experience and other such avenues (Alexander & Young, 1996).

Therefore, the decision to implement external offshoring operations versus internal offshoring operations will be driven either by the search for resources or capabilities that are "essential" to achieving a competitive advantage (if the firm lacks them) or by the need to externalize activities that are "non-essential" for the firm to focus on core competences. Here, again, concurrent options seem to be an intermediate position.

H3a: Managers' attitudes based on resource seeking will favour the intention to choose external offshoring operations versus internal offshoring operations.

H3b: Managers' attitudes based on resource seeking will favour the intention to choose external offshoring operations versus concurrent offshoring operations.

H3c: Managers' attitudes based on resource seeking will favour the intention to choose concurrent offshoring operations versus internal offshoring operations.

Industry practice (imitation)

The survey by the Offshore Research Network revealed that 37 percent of the respondents cited industry practice as an important reason for them to engage in offshoring activities (Lewin & Peeters, 2006). The discussion of imitation strategy is extensive in the organization theory literature (e.g., Levitt and March, 1988; Schewe, 1996). The ultimate goal of this approach is to explain how and why organizations become institutionalized, where forms and procedures are taken for granted (Pfeffer, 1987).

Schewe (1996) argued that imitation occurs due to inertia. Some firms are unwilling to make risky investment decisions and prefer to take a wait-and-watch

approach. When their competitors reap significant profits through offshoring activities, they then begin to follow suit. Therefore, following competitors is an important motive for firms to engage in offshoring, where firms are often ‘forced’ to adopt an offshoring strategy, either to seek institutional legitimacy or because their competitors are all garnering benefits from offshoring activities (Lewin & Volberda, 2011).

Firms tend to adopt an imitation strategy and offshore solely to follow industry practice or competitor actions (Kauppi, 2013). The use of external offshoring operations in companies from different industries (manufacturing, technology, services, etc.) has prevailed (AT Kearney, 2005; BCG, 2005; KPMG, 2007; Lewin & Peeters, 2006; Lewin & Volberda, 2011; Rodríguez & Nieto, 2016). In the early years, firms prefer the internal offshoring model over the external offshoring model. However, over the years this preference has been shifted toward the external offshoring model regardless of nationality or function (Lewin & Volberda, 2011). Given that most firms offshore, and choose an external outsourcing model to cut costs, firms imitating their competitors are also more likely to adopt external offshoring operations. Furthermore, the benefits of external offshoring operations are easy to discern, and the short-term risks are relatively low compared with the other two offshoring operation modes. In terms of imitation practices, the consideration of external options provides the firms greater flexibility for future changes imitation in the offshoring options. In this sense, when managers’ attitude is focused on imitation and industry practice their intention and behaviour will be choose more external operation modes. Therefore:

H4a: Managers’ attitudes focused on imitation practices will favour the intention to choose external offshoring operations versus internal offshoring operations.

H4b: Managers’ attitudes focused on imitation practices will favour the intention to choose external offshoring operations versus concurrent offshoring operations.

H4c: Managers' attitudes focused on imitation practices will favour the intention to choose concurrent offshoring operations versus internal offshoring operations.

RESEARCH METHOD

Research design and data collection

The population of this study is composed of manufacturing companies in EU-15. We used the Amadeus database to identify the population. Two selection criteria were used to narrow down the population as we only selected companies: 1) that were "Global Ultimate Owners" and had subsidiaries abroad; and 2) where the status was active (or unknown). With these two selection criteria 3.460 European companies were selected. All were active and exposed to international activities as they all had at least one foreign subsidiary.

To obtain the information, we sent a postal mail survey to these companies. The survey was translated into five different languages: English, French, German, Italian and Spanish. We used the back translation method and did not find any problem in translation issues. Four stages of pre-testing, including evaluations by academic colleagues, were made. The final questionnaire had 14 questions derived from the literature and adapted to the specific context.

The questionnaire was mailed to senior-level managers who were most likely to be involved in the offshoring process, including CEOs or directors in charge of international operations. In the first round, 177 questionnaires were received, of which 26 had to be dismissed. A remainder was sent out after 4 months, and here we received 107 usable questionnaires. All in all we obtained a usable sample of 258 questionnaires, which represents a response rate of 7.4%. This is almost three points higher than those

obtained in other studies that have used a postal survey addressed to global manufacturing companies (Yip & Dempster, 2005).

We linked the survey data for each firm to general firm and accounting data on the Amadeus database. This combination of primary data (survey data) and secondary data (Amadeus database) seeks to reduce the problem of common method bias (Chang et al., 2010). As shown in Table 1, the 258 responses are distributed among 15 different countries providing a good representation of European manufacturing companies.

Insert table 1 about here

Measurement

Dependent variable:

The dependent variable “*Offshoring Operation Mode*” represents the behaviour carried out by managers about the offshoring operation mode implemented. This variable is defined as a polytomous variable taking the value "0" when managers' behaviour leads to implement internal offshoring operations, the value "1" when managers' behaviour involves the choice of external offshoring operations and the value "2" when managers' behaviour leads to implement concurrent offshoring operations (relocating the same activity using both offshoring modes). In total 466 offshoring operations were identified, of which 80 were external offshoring operations, 323 internal offshoring operations and 63 concurrent offshoring operations.

Independent Variables:

The independent variables are managers' attitudes regarding offshoring operation mode. We approached managers in a more general sense asking them what his /her attitude was over doing offshoring. The questions we used as proxies of these attitudes were

addressed using the drivers of offshoring as done in the ORN project (Lewin & Volverda, 2011). However, we did not ask for a specific operation in a specific moment in a specific country, as most of the papers on entry mode do.

Our approach was ex-ante, in other words, we requested about his/her opinion of doing offshoring encapsulated through the drivers of offshoring. From the 12 drivers to offshore that are highlighted in the literature, we asked managers to indicate on a 5-point scale their opinion about the importance that each of these drivers had in their perception about offshoring (where 1 indicates very low importance and 5 indicate very high importance).

Based on the received responses, we carried out a principal components analysis to identify the underlying factors of the 12 drivers. The results indicate that the 12 drivers could be grouped into four factors. These four underlying factors explain 65.1% of the total variance (among the 12 drivers). As shown in Table 2, factor 1 captures managers' attitudes based on cost cutting, while factor 2 is integrated by managers' attitudes focused on increase market competitiveness. Managers' attitudes focused on resource seeking are more prevalent in factor 3, while managers' attitudes focused on imitation practices are represented in factor 4.

*** Insert table 2 about here***

The four independent variables, Cost cutting, Market competitiveness priorities, Resource seeking and Imitation practices, were created based on the factor loadings and factor scores for each manager. The adequacy of sample size was determined by Kaiser-Meyer-Olkin measure and Bartlett's sphericity test the results of which are presented at the end of Table 2. The results showed that performing factor analysis was acceptable and justifiable. Moreover, we calculate Cronbach's Alpha for scale reliability, for the whole scale and for each individual factor identified. With an overall alpha of 0,706

(and an individual alpha of each factor near or higher to 0,7) scale reliability, or internal consistency, is acceptable.

Control Variables:

According to our research model (figure 1), as a proxy for subjective norm we use the type of ownership (family versus non-family firms). Negative social pressure against offshoring is perceived higher in family firms than in non-family firms. Moreover, family firms are more conservative than non-family firms (Pukall & Calabró, 2014) and emotions have an important role in their decisions (Musteen, 2016). Owners are often emotionally attached to their firm, which is an integral part of their self-fulfilment and family tradition. Their *raison d'être* is thus not only to maximize profits but to secure the company's existence for the next generation through a long term perspective and a clear identification with customers, channels and other stakeholders (Venohr & Meyer, 2009). Accordingly, family firms are less likely to use offshoring operations. However, if they do, managers' intentions are more reluctant to lose control through the use of third parties since the threat of opportunism and the risk of losing reputational capital are higher than in captive offshoring (Pukall & Calabró, 2014).

Finally, as proxies of competences (*perceived behaviour control*) we introduce some characteristics of the firm: company size, international experience and type of activity. Larger and more experienced companies have greater accessibility to resources and internationalization knowledge. Therefore, for these companies it is easier to carry out more advanced offshoring operations, such as internal offshoring operations or concurrent offshoring operations.

In the same vein, depending on the nature of the offshored activity (productive, commercial or managerial) the perceived ease or difficulty of performing the behaviour will be different. *Productive activities* include R&D and product design, production and

purchasing; *Commercial activities* include marketing, sales and after-sales activities; and *Managerial activities* include human resource management, finance, IT and supervision activities.

Most of the *managerial activities* are core activities for the company. These activities have been traditionally perceived as more difficult to transfer abroad. Therefore, if companies adopt these strategies there is a tendency to control them through internal offshoring operations. However, productive and commercial activities are clearly perceived as easier to transfer abroad either through internal operations or external. Specifically, activities directly related to the production process (*productive activities*) represent a significant cost for manufacturing firms, and most managers consider it more efficient to move them abroad through external offshoring operations. In our model, *managerial activities* are used as a baseline (excluded in the model). Age, company size and international experience were obtained from the Amadeus data base. The nature of the offshored activity (productive, commercial or managerial) was derived from the questionnaire.

A more accurate description of the variables included in the model is presented in Table 3.

*** Insert table 3 about here***

RESULTS

Table 4 presents the correlation matrix and the variance inflation factor values (VIF). Most of the correlations among the variables were small and did not exceed the maximum level. Furthermore, the variance-inflation factor (VIF) reveals that the largest VIF value is 1.15, which is well below the cut-off of 10 or even 5 (Hair et al., 1999). This evidence reduces concerns about multicollinearity.

*** Insert table 4 about here***

Since the dependent variable in our model –*Offshoring Operation Mode*– is qualitative and polytomous (with the values 0, 1 and 2), the hypotheses were tested using a multinomial logit regression model.

We run 6 different regression models in order to assess the consistency of the results, which ensures the robustness of the conclusions. By and large, the models present satisfactory indicators of significance (chi-squared values with levels of significance of less than 0.001); classification percentages ranged between 69.1% and 72.7%. The results confirm the majority of the predictions formulated and are consistent in all models.

*** Insert table 5 about here***

The first model (MNL 1) illustrates the effect of the control variables. Surprisingly, the ownership variable has no influence on managers' intentions and behaviours to implement one offshoring operation mode or other. Company size is associated positively to concurrent offshoring operations (COF), although size is not significant in the choice of external offshoring operations (EOF) versus internal offshoring operations (IOF). This result confirms that largest companies use more concurrent offshoring operation most. The international experience is only significant when comparing external offshoring operations versus internal offshoring operations. In this case, companies using external offshoring mode tend to be those less internationally experienced. Related to the type of activity being offshored, there is a clear tendency to use internal offshoring operations in managerial activities.

In the subsequent models (MNL 2, 3, 4 and 5) we add the influence of each independent variable separately (cost cutting, market competitiveness, resource seeking and imitation practices). We include the effect of all variables together in the final

model (MNL 6). In general the theoretical predictions are confirmed when we compare pure offshoring operation modes (external versus internal offshoring operations).

Analysing the first column in each model, except for model 2, we can observe a positive relationship between external offshoring operations and managers' attitudes focused on cost cutting, resource seeking and imitation practices. As we can see in the final model (MNL 6) these relationships are significant in both cases: EOF versus IOF with positive coefficients (H1a, H3a and H4a) and COF versus EOF with negative coefficients (H1b, H3b and H4b). The results confirm clearly that managers wishing to lower costs prefer to implement external offshoring operations instead of the other offshoring operation modes. Also, in companies where they do not possess the resources or capabilities needed to gain competitive advantage or need to focus their efforts on core competencies, managers prefer to implement external offshoring operations versus offshoring operations of an internal nature (IOF and COF). Finally, as we hypothesized, managers engaged in offshoring operations motivated by previously developed strategic actions by competitors prefer to use external offshoring operations.

On the other hand, the sign of the variable *Market competitiveness* is negative and significant in the models comparing EOF versus IOF (H2a). However, this effect is not validated when we compare EOF versus COF (H2b). These results show that managers engaged in offshoring operations seeking organizational improvements tend to implement further internal offshoring operations rather than offshoring operations of an external nature. As we can see in Table 5, seeking organizational improvements decreases the likelihood of implementing external offshoring operations versus purely internal (IOF), but not against mixed offshoring operations (COF) as we expected.

Surprisingly, none of the hypotheses related to the possible different influence of the managers' attitudes over the choice between concurrent offshoring operations and

internal offshoring operations are significant (H1c, H2c, H3c, H4c). Compared to captive models (internal offshoring operations) and offshore outsourcing models (external offshoring operations), concurrent models are most costly to implement. On the one hand, as mentioned, firms must incur the costs of both making and buying (Parmigiani, 2007). Moreover, firms need to coordinate *make and buy activities* to avoid internal conflicts. On the other hand, the benefits of concurrent models are not as transparent as those of offshore outsourcing or captive models because of the complexity and intricacies in managing concurrent models. According to our results, it seems that concurrent models are used by the largest firms in a more sophisticated final stage. Managers' attitudes do not cause a clear behavior regarding this offshoring operation mode.

DISCUSSION AND CONCLUSIONS

Research into offshoring has proliferated as the practice of offshoring has become widely adopted by multinational corporations as well as small and medium sized firms.

This study attempted to extend this literature in several ways.

First, this article is one of the few attempts to use some of the elements of the TPB to justify some of the differences in the governance decisions of offshoring operations.

Interestingly, although there have been many studies identifying various offshoring drivers, few have approached the phenomenon in such a comprehensive manner, both theoretically and empirically. Our results indicate that decisions about offshoring operation modes are strongly influenced by attitudes and intentions of managers.

Particularly, in terms of the TPB, the decision seems to be clearly influenced by the manager's attitude and partially determined by competences related to resources and experience of the firm. In this sense, we corroborate some of the results of the TPB applied to other fields (Conner & Armitage, 1998): attitudes and competences are key

predictors of behaviour, and social control plays a less important role. Social control could exert some influence ex-ante, in the decision to implement offshoring operations or not, but once the decision is made there is no influence in the offshoring mode chosen by the manager. Our empirical findings indicate that managers' attitudes based on cost cutting, resource seeking and imitation practices are more likely to adopt external offshoring operations; whereas managers' attitudes focused on increase market competitiveness are more likely to adopt internal offshoring operations.

Second, we introduced and tested the concurrent offshoring mode as another alternative choice in offshoring operations. Some authors (Hansen et al., 2011; Mols, 2010a, 2010b; Parmigiani, 2007) have claimed the importance of this offshoring operation mode as a discrete and different option to internal offshoring operations. However, according to our results, we could not observe clear differences between internal offshoring operations and concurrent offshoring operations. In our sample of multinationals firms, the concurrent offshoring seems to be an extension of pure internal offshoring. In fact, larger companies tend to make most use of concurring offshoring. Therefore, it seems that, contrary to our hypothesis and the common view in the field, concurrent offshoring operations do not seem to be an intermediate option between the two main operation modes but a final, transformational stage in the evolution of the MNE strategies (Jensen & Petersen, 2013). It then becomes a more sophisticated operation used after the company has achieved some experience in dealing with the other two primary options. These larger and more experienced firms are willing to develop both offshoring operations at the same time: to *make* -taking advantage of their own expertise- and to *buy* -learning from their suppliers-.

While this study suggests that the understanding of specific managers' attitudes can shed light on whether captive models, offshore outsourcing models, or concurrent

models will be chosen by offshoring operations, the intention of this research is not to provide a normative guidance for practitioners. However, we can offer some managerial implications. The choice of the operation mode is a complicated process involving a myriad of factors. The idiosyncratic attributes of each offshoring operation mode further complicate the decision behind choosing offshore models. This study suggests that such decisions can be reached by analysing managers' attitude from a control-flexibility vantage point of view. Managers can first examine the principal offshoring motivations and then assess the associated cost-benefit trade-offs. The integration of this rationale into one single framework can offer a much more comprehensive overview of the decision and reduce the number of variables that a company would need to consider when deciding on which offshoring operation mode to implement.

Although this study touches upon the advantages and disadvantages of each offshoring model from the dichotomy of control and flexibility, it does not provide a detailed explicit comparison of these offshoring models from cost-benefit analysis. The costs of maintaining offshoring models can be expected to differ among one another. In the same vein, the benefits generated from each model also vary given the contingencies of offshoring firms. We propose that captive models offer offshoring firms a high level of control while offshore outsourcing models give offshoring firms a high level of flexibility. Presumably, an optimal balance of control and flexibility is most conducive to the performance of offshored firm. A more comprehensive study is needed to take cost-benefit analysis of both offshoring and offshored firms into consideration.

The findings also suggest the need for more research on the nature of concurrent models. In spite of salient benefits, concurrent models have not been widely adopted in practice (Parmigiani, 2007). This suggests that concurrent models have their inherent

limitations in implementation. Future research should further explore the management concerns associated with concurrent models.

The paper also suffers from some data limitations. We acknowledge that the implementation of an offshoring strategy is likely be the result of a process involving more than one decision makers within the company, and the final result might not necessarily reflect the attitude and the intentions of the person that answered the survey. Additionally, a further problem arises from the fact that the managerial attitudes and intentions are also moderated and affected by the owners' attitudes and intentions, meaning that the managers must also satisfy the goals of the owners and that not always the latter comply with the goals of the managers. This study is focused on MNE, and in these companies the use of internal option is more consolidated than in SMEs. Another limitation arises from the lack of country variables. As we were measuring general attitudes regarding the offshoring we did not aim to associate the offshoring operation mode choice to specific locations.

We hope future studies can further explore these critical issues.

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Figure 1. Control and flexibility

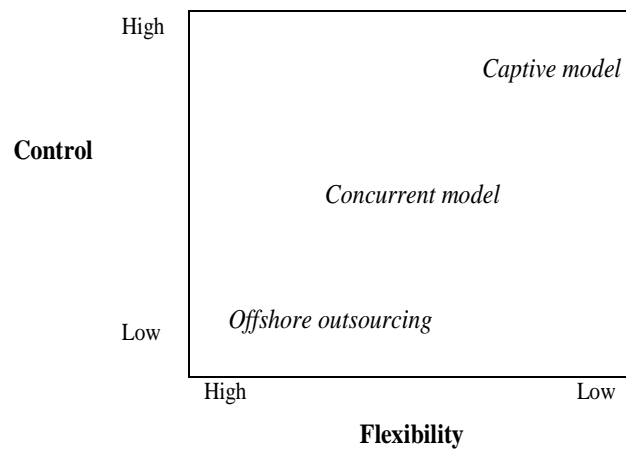


Figure 2: Research model

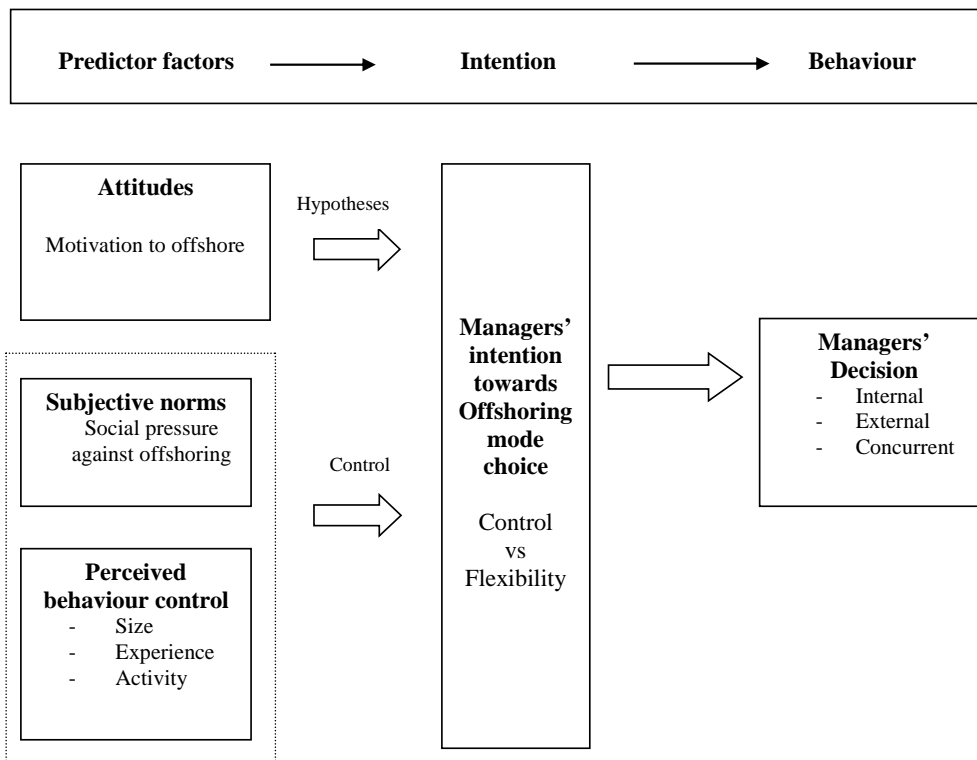


Table 1: Responses received and offshoring operations by origin country

Origin Country	Surveys Sent		Surveys Received		Response Rate %	Offshoring operations
	N° of surveys	%	N° of surveys	%		
Austria	50	1,45	5	1,94	10	5
Belgium	147	4,25	7	2,71	4,76	12
Denmark	133	3,84	13	5,04	9,77	24
France	219	6,33	16	6,20	7,31	26
Finland	91	2,63	4	1,55	4,4	13
Germany	488	14,1	50	19,38	10,25	72
Greece	175	5,06	11	4,26	6,29	32
Holland	125	3,61	6	2,33	4,8	22
Ireland	35	1,01	2	0,78	0,06	2
Italy	706	20,4	56	21,71	7,93	104
Luxemburg	4	0,12	0	0,00	0	0
Portugal	27	0,78	2	0,78	7,41	3
Spain	629	18,18	49	18,99	7,79	80
Sweden	202	5,84	17	6,59	8,42	36
United Kingdom	429	12,4	20	7,75	4,66	40
EU-15	3.460	100	258	100	7,5	466

Source: AMADEUS DATA BASE (2007) and own.

Table 2: Rotated component matrix^a

Drivers	Factor 1	Factor 2	Factor 3	Factor 4
1.- Reduce labour costs	0.809	-0.248	0.001	-0.048
2.- Reduce other costs	0.725	0.229	-0.041	0.008
3.- Change fixed costs into variable	0.706	-0.028	0.256	0.180
4.- Forecast costs more accurately	0.616	0.313	0.206	0.232
5.- Access to new markets	-0.168	0.759	-0.355	0.096
6.- Improve the product quality	0.078	0.659	0.314	0.035
7.- Reduce the response time to changes	0.194	0.693	0.297	0.066
8.- Access to high skill employees	0.044	0.357	0.727	-0.101
9.- Access to non-available technology	0.001	0.064	0.770	0.268
10.- Focus on core competences	0.298	-0.045	0.696	0.252
11.- Follow the competitors	0.073	0.015	0.207	0.881
12.- Common practice in the industry	0.116	0.126	0.071	0.872

Extraction Method: Principal Components Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. 5 Iterations for Convergence.

Kaiser-Meyer-Olkin (KMO) 0.724

Barlett's sphericity test	{	Aprox. Chi-Square	4404.133
		Df	66
		P-value	0,000

Table 3. Summary of variables included in the model

Variables	Description
<i>Dependent Variable</i>	
<i>Offshoring Operation Mode</i>	Polytomous variable that takes the value "0" when managers' decision is "internal offshoring operation", "1" when managers' decision is "external offshoring operation" and "2" when managers' decision is to use both operations for the same activity "concurrent offshoring operation".
<i>Independent Variables</i>	
Cost cutting	Attitudes associated with cost reduction (factor loading)
Market competitiveness	Attitudes related with market competitiveness, accessing to new markets or with differentiation strategies (factor loading)
Resource seeking	Attitudes associated with the access to resources (factor loading).
Imitation practices	Attitudes related with the competitors strategies (factor loading).
<i>Control Variables</i>	
<i>Subjective norms:</i> Ownership	Dichotomous variable that takes the value "1" when the company is family owned and "0" when is non-family.
<i>Perceived behaviour control:</i> Size	Logarithm of the mean of the number of employees of the last 5 years available (2002-2006) of each company.
International Experience	Number of years the firm is operating in international markets
Activity	Type of activity relocated (Dummy Variable: Productive*, Commercial** and Managerial*** activities).

* Productive activities include R&D and product design, production and purchasing.

** Commercial activities include marketing, sales and after-sales activities.

*** Managerial activities include human resource management, finance, IT and supervision activities.

Table 4: Correlation matrix

	FIV	1	2	3	4	5	6	7	8
Cost	1.022	1							
Market	1.057	0.019	1						
Resource	1.041	-0.017	0.036	1					
Imitation	1.018	-0.010	-0.007	-0.021	1				
Ownership	1.090	0.026	-0.134**	0.090**	0.031	1			
Size	1.114	-0.077**	0.001	-0.018	-0.094**	-0.0301	1		
Int. Exp.	1.153	0.080**	0.050	-0.101**	-0.009	0.296**	-0.063*	1	
Activity	1.029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1

* p < 0,05; ** p < 0,01

Table 5. Multinomial Logistic Regression

	MNL 1			MNL 2			MNL 3		
	EOF/IOF	COF/IOF	COF/EOF	EOF/IOF	COF/IOF	COF/EOF	EOF/IOF	COF/IOF	COF/EOF
<i>Ownership (Dummy)</i>	0.483 (p=0.077)	0.366 (p=0.211)	-0.117 (p=0.747)	0.498 (p=0.069)	0.357 (p=0.223)	-0.141 (p=0.700)	0.425 (p=0.124)	0.333 (p=0.258)	-0.092 (p=0.802)
<i>Size</i>	-0.068 (p=0.436)	0.244* (p=0.018)	0.312* (p=0.011)	-0.066 (p=0.461)	0.238* (p=0.020)	0.303* (p=0.014)	-0.066 (p=0.446)	0.240* (p=0.019)	0.306* (p=0.012)
<i>International experience</i>	-0.016* (p=0.017)	-0.010 (p=0.114)	0.007 (p=0.423)	-0.016* (p=0.017)	-0.009 (p=0.139)	0.007 (p=0.424)	-0.018* (p=0.011)	-0.010 (p=0.103)	0.008 (p=0.361)
<i>Activity (Dummies)</i>									
<i>A. Productive</i>	1.217*** (p=0.001)	3.026** (p=0.003)	1.808 † (p=0.092)	1.225*** (p=0.001)	3.024** (p=0.003)	1.800 † (p=0.094)	1.126** (p=0.002)	2.984** (p=0.004)	1.859 † (p=0.084)
<i>A. Commercial</i>	-0.276 (p=0.522)	3.018** (p=0.003)	3.294** (p=0.003)	-0.221 (p=0.611)	2.976** (p=0.004)	3.197** (p=0.004)	-0.323 (p=0.457)	3.001** (p=0.004)	3.323** (p=0.002)
Cost Cutting				0.172 (p=0.188)	-0.152 (p=0.284)	-0.323 † (p=0.064)			
Market Competitiveness							-0.333* (p=0.017)	-0.179 (p=0.245)	0.154 (p=0.409)
Resource Seeking									
Imitation Practices									
Constant	-1.460** (p=0.010)	-5.642*** (p=0.000)	-4.183*** (p=0.001)	-1.522** (p=0.008)	-5.626*** (p=0.000)	-4.103*** (p=0.001)	-1.321* (p=0.021)	-5.546*** (p=0.000)	-4.225*** (p=0.001)
N		466			466			466	
Chi-square		68.48***			72.03***			74.75***	
-2 log likelihood		649.07			645.52			642.80	
Correct Classification (%)		70.0			69.1			70.8	

† < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001

Table 5 (continued). Multinomial Logistic Regression

	MNL 4			MNL 5			MNL 6		
	EOF/IOF	COF/IOF	COF/EOF	EOF/IOF	COF/IOF	COF/EOF	EOF/IOF	COF/IOF	COF/EOF
<i>Ownership (Dummy)</i>	0.227 (p=0.429)	0.329 (p=0.267)	0.102 (p=0.786)	0.481 (p=0.081)	0.382 (p=0.194)	-0.99 (p=0.788)	0.204 (p=0.497)	0.331 (p=0.276)	0.127 (p=0.747)
<i>Size</i>	-0.048 (p=0.609)	0.238* (p=0.020)	0.286* (p=0.025)	-0.057 (p=0.508)	0.250* (p=0.017)	0.307* (p=0.013)	-0.025 (p=0.789)	0.231* (p=0.024)	0.256* (p=0.045)
<i>International Experience</i>	-0.017 (p=0.020)	-0.009 (p=0.117)	0.008 (p=0.392)	-0.015* (p=0.023)	-0.010 (p=0.111)	0.006 (p=0.517)	-0.017* (p=0.017)	-0.009 (p=0.132)	0.008 (p=0.397)
<i>Activity (Dummies)</i>									
<i>A. Productive</i>	1.203** (p=0.002)	3.019** (p=0.003)	1.816† (p=0.092)	1.264*** (p=0.001)	3.004** (p=0.004)	1.740 (p=0.106)	1.252** (p=0.002)	2.944** (p=0.004)	1.692 (p=0.119)
<i>A. Commercial</i>	-0.289 (p=0.515)	3.021** (p=0.003)	3.310** (p=0.003)	-0.255 (p=0.557)	3.006** (p=0.003)	3.261** (p=0.003)	-0.137 (p=0.766)	2.946** (p=0.004)	3.083** (p=0.005)
Cost Cutting							0.327* (p=0.032)	-0.135 (p=0.340)	-0.463* (p=0.015)
Market Competitiveness							-0.306* (p=0.034)	-0.163 (p=0.297)	0.143 (p=0.452)
Resource Seeking	0.646*** (p=0.000)	0.102 (p=0.496)	-0.544** (p=0.003)				0.744*** (p=0.000)	0.062 (p=0.685)	-0.682*** (p=0.000)
Imitation Practices				0.303* (p=0.021)	-0.131 (p=0.385)	-0.434* (p=0.017)	0.436** (p=0.002)	-0.134 (p=0.386)	-0.569** (p=0.003)
Constant	-1.537** (p=0.010)	-5.588*** (p=0.000)	-4.051*** (p=0.001)	-1.609** (p=0.005)	-5.679*** (p=0.000)	-4.070*** (p=0.001)	-1.790** (p=0.004)	-5.507*** (p=0.000)	-3.717** (p=0.004)
N		466			466			466	
Chi-square		93.43***			75.62***			116.66***	
-2 log likelihood		624.12			641.92			600.89	
Correct Classification (%)		71.2			69.5			72.7	

† < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001