

# The role of marketing capabilities, absorptive capacity, and innovation performance

Juliana Conceição Noschang da Costa, Shirlei Miranda Camargo,  
Ana Maria Machado Toaldo and Simone Regina Didonet  
*Departamento de Ciências Sociais, Universidade Federal do Paraná,  
Curitiba, Brazil*

## Abstract

**Purpose** – The purpose of this paper is to analyze effects of absorptive capacity (ACAP) on organizational performance. The model looks at the mediating influence of marketing capabilities (innovative capability and new product development capability (NPDC)) and innovation performance (IP).

**Design/methodology/approach** – This study takes a quantitative approach by using survey data from 333 Brazilian manufacturer managers involved with strategic marketing processes. Structural equation modeling was used to test the theoretical hypotheses.

**Findings** – Results indicate that ACAP does not have a direct impact on organizational performance. The relation is fully mediated by marketing capabilities (innovative capability and NPDC) and IP.

**Research limitations/implications** – According to the research findings, managers should put efforts in the ACAP as well as marketing capabilities that will result in better organizational performance. This research is limited to the context of manufacturer firms in Brazil. However, it is suggested that an application of this research can be conducted in different industries and different countries.

**Originality/value** – This study contributes to theory and management practice. First, no study has explored all these constructs together. Through the relationship between ACAP and performance, the authors found that marketing capabilities and IP can fully mediate the former proposed relation. The authors' contribution is the understanding of the role of ACAP influence on performance. Managers should be encouraged to invest in companies' ACAP as well as marketing capabilities to differentiate themselves from competitors and improve performance.

**Keywords** Organizational performance, Absorptive capacity, Structural equation modelling, Mediation, Marketing capabilities, Intermediate results

**Paper type** Research paper

## 1. Introduction

The dynamic nature of the product and services market requires that firms develop new abilities to innovate with better products and services, including new processes and routines (Kostopoulos *et al.*, 2011). Knowledge, an essential resource for innovation (Zahra and George, 2002; Cohen and Levinthal, 1990), is available from internal and external sources. However, the external knowledge available to firms is not absorbed equally among them (Zahra and George, 2002). A firm's absorptive capacity (ACAP) refers to its ability to recognize the value of external knowledge and then to assimilate, translate, and apply that knowledge for commercial ends (Cohen and Levinthal, 1990; Flatten *et al.*, 2011). ACAP helps companies to create and maintain a competitive advantage in dynamic environments (Teece *et al.*, 1997; Zahra and George, 2002).

Some studies have found that marketing capabilities play a mediating role between ACAP and OP. Marketing capabilities are crucial determinants of superior financial performance. For this study, we focused on marketing innovation capability (MIC) and new product development capability (NPDC). Various researchers have linked ACAP and NPDC (Stock *et al.*, 2001; Fosfuri and Tribó, 2008), and we identified studies that related NPDC with innovation performance (IP) as well (Steinberg *et al.*, 2017). Thus, we can infer that NPDC mediates ACAP-performance relationship.



MIC may also mediate the ACAP-performance relationship (Akgün *et al.*, 2009). Thus, since some studies link ACAP with MIC and other studies relate innovation (MIC) to performance; it can be proposed that the capability for innovation may be a mediator of the relationship between ACAP and performance.

Moreover, in Corral de Zubielqui *et al.*'s (2016) paper, ACAP has a direct and positive influence on innovation outcomes and an indirect effect on a firm's performance through innovation. Finally, Jiménez-Jiménez and Sanz-Valle's (2011) empirical study showed that IP directly and positively influences OP. Therefore, we infer that the ACAP-performance relationship may occur through a second mediation, wherein the mediators can be either NPDC and/or MIC together with IP.

Given the ongoing yet unresolved discussion on marketing capabilities and firm performance (Vorhies and Morgan, 2005), more fine-grained research is called for on both marketing and organizational antecedents and their effects on OP. In light of above, a comprehension of the relationship between ACAP and MIC and between ACAP and NPDC can help elucidate this question. In the absence of an existing integrated empirical test of these relationships, we cannot be confident about how ACAP affects marketing innovation and NPDC or how it contributes to OP, either directly or via IP. Since a firm's MIC and NPDC are becoming crucial to responding to dynamic market needs (Hsieh and Tsai, 2007), we need to address this gap in the literature.

Morgan (2012) postulated that through relationship between ACAP-OP, mediated by marketing capabilities and operational performance, there will be increased causal ambiguity. It means that the cost of imitation will increase; it will be more difficult for competitors to copy products and processes due to the intangibility of the resulting learning capacities. It also highlights the importance of path dependence in the exclusivity of organizational capabilities and resources, and, finally, the legal barriers that the company can impose through patents, for example (Hooley *et al.*, 2005).

Our study makes four theoretical contributions. First, it adds to the field's current understanding of the relationship between ACAP and IP, contributing to closing the gap Kostopoulos *et al.* (2011) highlighted. The authors also stressed the lack of an integrative examination of innovation and financial measures of performance in ACAP studies. Therefore, a second theoretical contribution is that it provides a better comprehension of ACAP's role as a mechanism for translating external knowledge into tangible benefits. Third, it provides an investigation of the effects of absorbed external knowledge on performance when mediated by different marketing capabilities (Tzokas *et al.*, 2015). Finally, this study contributes to a better theoretical understanding of marketing capabilities' relevance to building innovative business relationship capabilities.

Likewise, these research outcomes contribute to improved management practices as they demonstrate the importance of absorbing external knowledge and integrating it internally via marketing capabilities. The study also highlights the fact that variable knowledge is a significant asset that can differentiate a firm from its competitors. For instance, if a firm relates well with its stakeholders (such as universities and start-ups), it is probably closer to gaining new knowledge, and improved technologies than its less connected competitors (Kostopoulos *et al.*, 2011).

This paper is structured as follows. First, we explain the background research literature, including discussions of ACAP, marketing capabilities, non-financial and financial results, resource-based view (RBV), and dynamic capabilities (DCs). Next, we present the theoretical model and describe its key constructs. This is followed by the development and construction of the hypotheses. Subsequently, we present the methodology and results, which is followed by a discussion of the findings. The paper's conclusion and implications are then presented. Finally, we discuss the managerial implications, limitations, and potential future research directions of this paper.

## 2. Literature background

The key constructs for this study are grounded in the RBV and DC perspective. We used DC to provide theoretical support for ACAP and RBV to sustain marketing capabilities. According to RBV, a company's access to strategic resources is the main determinant of performance variations among firms in the same sector (Barney, 1991). Some RBV studies, referring to organizational capabilities (Slater *et al.*, 2006), have focused on the organizational results of resources development processes (Sirmon *et al.*, 2007). Nevertheless, RBV is not free from theoretical criticism. The theory's weakness stems from its lack of a theoretical explanation of how to develop and deploy firms' resources. Lengnick-Hall and Wolff (1999) pointed out the failure of RBV to consider the effects of dynamic market environments.

The concept of DCs (Teece *et al.*, 1997; Newbert, 2007) aims to explain how companies create and maintain a competitive advantage in dynamic environments, focusing on company's resources as a source of their differentiation (Barney, 1991; Penrose, 1959; Priem and Butler, 2001). DC is a dynamic view that incorporates dynamicity to RBV (Cavusgil *et al.*, 2003). RBV highlights resource picking (i.e. marketing capabilities), while DC emphasizes resource reconfiguration (i.e. ACAP). Thus, Liu and Ko (2012) pointed out that company's knowledge will be beneficial only if translated into specific capabilities that favor the implementation of resources, since just learning may not be enough for companies to achieve better results. To achieve a competitive advantage the integration of constructs marketing capabilities from RBV and ACAP from DC is necessary.

The remainder of this section defines and discusses ACAP, marketing capabilities, IP, and organizational performance.

### 2.1 ACAP

Dierickx and Cool (1989) affirmed that knowledge stocks alone are necessary but insufficient conditions of value delivery. As a possible solution, Cohen and Levinthal (1990) introduced the concept of ACAP into the organizational context. According them, ACAP is an "ability to recognize the value of new information, assimilate it, and apply it to commercial ends" (Cohen and Levinthal, 1990, p. 128). Thus, superior OP can be reached only when knowledge is properly deployed via the firm's capabilities (Day, 1994).

Several authors have developed works based on Cohen and Levinthal's (1990) seminal concept. The authors proposed three phases of ACAP: identification, assimilation, and exploration. Considering that the effects of externally acquired knowledge on organizational outcomes depend on a company converting this knowledge content into a usable form, Zahra and George (2002) expanded ACAP from its three original dimensions into four dimensions: acquisition, assimilation, transformation, and exploitation. Transformation, the added phase, refers to the internalization and conversion of assimilated external knowledge (Zahra and George, 2002). Transformation brings synergy and recodification to the ACAP process by facilitating the assimilation of a firm's newly acquired knowledge with prior knowledge (Jiménez-Barrionuevo *et al.*, 2011).

We can cite some studies that used ACAP. Xiong and Bharadwaj (2011) investigated financial impact of marketing resources and capabilities in the initial public offering market in a B2B context (computer and software industry). A young firm with strong ACAP is more likely to enhance its marketing capabilities through the transfer of knowledge in its network. In a recent study by Yang *et al.* (2015), the authors posited that investments in R&D help firms to accumulate intellectual capital. The findings of this study supports that previous knowledge helps firms to absorb and develop new knowledge. Yang *et al.* (2015) postulated that the outcome of knowledge integration in a firm is its organizational capabilities. It demonstrates the importance of ACAP to firms.

With a well-developed ACAP, firms can improve their performance (Lane *et al.*, 2001). A well-defended argument is also that, through ACAP, heterogeneity among firms' performance outcomes can be partially explained.

## 2.2 Marketing capabilities

Capabilities refer to the knowledge and skills that a company accumulates, which, in turn, allow it to increase the value of its use of resources (Murray *et al.*, 2011). Specifically, Morgan (2012) argued that marketing capabilities are responsible for transforming company's marketing resources into valuable results. The two marketing capabilities examined in the present research are MIC and NPDC.

When companies can manage processes and development of new products – NPDC (Murray *et al.*, 2011), we can infer that the organization is concentrating efforts to achieve a sustainable competitive advantage. In turn, when the company has well-developed innovation capability (MIC) (Merrilees *et al.*, 2011), and it can deliver value to its customers better than competitors; we can say that it provides recognized value to its customers. Therefore, studying the operation of these capabilities in firms is fundamental to understand mechanisms that help in search of organizational differentiation. In the next sections, these two capabilities are discussed.

**2.2.1 MIC.** MIC refers to a firm's ability to successfully introduce new methods into the marketplace (Merrilees *et al.*, 2011). Specifically, Merrilees *et al.* (2011) showed that MIC aids new idea development aimed to help customers: using MIC, firms are able to fast track new offerings to customers, to manage processes while keeping costs down, and, finally, to package a total solution to customer problems. In the contemporary business environment, firms depend upon external sources of information to promote innovation, stimulate new products, and improve their performance (Cassiman and Veugelers, 2002; Morgan and Berthon, 2008). ACAP, in this context, is critical to organizational innovation.

If it is theoretically plausible that ACAP can lead to the better acquisition and application of external knowledge in the development of MICs, it is also reasonable to suppose that these can lead companies to superior IP. There are studies that link companies' innovation capabilities to their use of external knowledge sources as fonts of new ideas (Laursen and Salter, 2004). In addition, Katila and Ahuja's (2002) study investigates the relationship between innovation capability and the creation of new products and has found that firms' search efforts actually vary across two distinct dimensions: search depth and search scope (Katila and Ahuja, 2002).

**2.2.2 NPDC.** NPDC concerns a company's ability to develop and launch new products that meet market requirements and that generate satisfactory financial returns (Ernst *et al.*, 2010). To develop new products, a company must have scientific and technological capabilities (Stock *et al.*, 2001). Companies need to search for external knowledge, internalize it, and use it to acquire more knowledge as they develop new products that differentiate them from competitors. Yet, despite the relevance of these two constructs (ACAP and NPDC) and indications of a probable relationship between them, few studies have verified this relationship.

## 2.3 Performance

Performance is defined as the achievement of established objectives, which implies that if one reaches or exceeds defined goals, one has achieved positive performance (Slater *et al.*, 2006). There are in the literature, two major groups of indicators most commonly used as evidence of performance in organizations: financial (i.e. OP) or non-financial (i.e. IP) (Hult *et al.*, 2005).

To be measurable, IP needs to be reflected in organizational results. Furthermore, there is evidence in the literature of a positive relationship between IP and OP, including empirical tests proving that the most innovative companies have the best results (Lawson and Samson, 2001). Cruz-Ros *et al.* (2010) argued that establishing direct and clear causal relationships between capacities and financial performance could be challenging. According to Maria *et al.* (2010), however, marketing capabilities and performance do share an indirect relationship. Thus, it is possible that IP plays an important role. At the same time, it is important to understand the leading mechanisms that drive the marketing capabilities of companies and how such mechanisms impact organizational results. Finally, it is relevant to investigate the relationship between ACAP and marketing capabilities and how they impact OP.

### 3. Hypotheses development

The direct relationship between ACAP and OP is the primary link examined with the conceptual model used for this research. Given this direct relationship, the model investigates the simple mediating role of MIC and NPDC. Considering the marketing capabilities cited above, our model encompasses the double mediating role of IP on ACAP and organizational performance.

According to Kostopoulos *et al.* (2011), a firm may use various sources to accumulate external knowledge while interacting with its stakeholders. The ways that a business utilizes its capabilities to improve their products, processes, and routines are a source of its differentiation from its competitors in the marketplace (Zahra and George, 2002) to such an extent that some researchers have argued that ACAP is positively related to OP (Wales *et al.*, 2013).

However, other researchers have found positive relationships, both direct and indirect, between ACAP and performance (Bharati *et al.*, 2014). For example, Garcia-Morales *et al.* (2007) found that technology ACAP influences organizational learning and innovation; this, in turn, generates better OP. Ali *et al.* (2016) found acquisition, assimilation, and exploitation are key drivers of organizational innovation and, in turn, of improved OP. Moreover, when Lane *et al.* (2001) tested ACAP of companies, also in a discharged form, they discovered both direct and indirect relationships with performance. In turn, Kostopoulos *et al.* (2011) discovered that IP fully mediates the relationship between ACAP and financial performance. Finally, although it is clear that ACAP is important to a company's performance, it is necessary to clarify how this relationship occurs: directly or indirectly. Thus, we first tested the direct link:

*H1.* ACAP has a direct and positive effect on organizational performance.

According to Day (1994), marketing capabilities are among the three most important factors that influence OP (along with business strategy and market orientation). Thus, we proposed measuring the relationship between marketing capabilities and OP (Thorpe and Morgan, 2007). Innovation capabilities, meanwhile, are critical to holding a competitive advantage and to superior marketing performance (Hooley *et al.*, 2005), and the study of this variable receives a significant share of attention in OP studies (Merrilees *et al.*, 2011). Based on existing literature, it can be inferred that IC is a determinant of OP.

A company's success, in other words, relates directly to that company's ability to develop and launch new products that meet market requirements and generate satisfactory financial returns (Ernst *et al.*, 2010). As Teece *et al.* (1997) argued, to be successful in the market, a company must possess the capacity to develop rapid and flexible product innovations.

Based on the literature reviewed, we propose the following hypotheses:

*H2a.* MIC has a direct and positive effect on organizational performance.

*H2b.* NPDC has a direct and positive effect on organizational performance.

In addition, there is evidence in the literature of a positive relationship between IP and OP, including empirical tests proving that the most innovative firms perform the best (Lawson and Samson, 2001; Tuan *et al.*, 2016). Therefore, we propose the following hypothesis:

*H3.* Marketing IP has a direct and positive effect on organizational performance.

Zahra and George (2002) also presented ACAP as a DC that influences the creation of a firm's other capabilities. Thus, we argue that a firm increases its innovation capabilities when influenced by ACAP, resulting in better OP. Yet, according to Barney (1991), ACAP can improve the firm's competitive advantage and influence its performance indirectly through innovation.

Thus, as Stock *et al.* (2001) affirmed, the expectation is that higher levels of ACAP will be positively related to more effective product development outcomes. Therefore, we can posit that new knowledge inputs create new products. We also argue that ACAP is one of the sources of a firm's new organizational knowledge.

Kostopoulos *et al.* (2011) argued that even when external knowledge is "ready to use" (e.g. in the acquisition of a prototype), it has to go through a processing phase. This phase requires the firm to have an ACAP that allows it to process the newly available knowledge and to exploit this knowledge in a more innovative way. Nevertheless, we argued that firms can add complexity to this process when their MIC and NPDC work in tandem with ACAP. Thus, in this research, we considered marketing capabilities as mediators of ACAP and OP.

Nevertheless, as Zahra and George (2002) have suggested, firms with a well-developed ACAP are more likely to achieve a competitive advantage through innovation and product development than those with less developed capabilities. Following this logic, we proposed the following hypotheses:

*H4a.* MIC mediates the relationship between ACAP and organizational performance.

*H4b.* NPDC mediates the relationship between ACAP and organizational performance.

Kostopoulos *et al.* (2011), Tsai (2001), and Wuryaningrat (2013) have all empirically investigated the connection between ACAP and innovation capability. For instance, Kostopoulos *et al.* (2011) demonstrated that ACAP contributes directly to innovation and indirectly (i.e. via innovation) to subsequent financial performance. Moreover, Tsai's (2001) results revealed that when ACAP interacts with a network position, it produces significant and positive effects on business unit innovation and performance. Nonetheless, a study by Wuryaningrat (2013) has provided empirical evidence that new knowledge can be transformed into innovation capabilities if it is supported by higher ACAP. Furthermore, as Cassiman and Veugelers (2002) concluded, external expertise can increase IP, and Akgün *et al.* (2009) found that product innovations and process innovations have a strong and significant influence on OP.

The role of ACAP is to support firms achieving their commercial ends through external knowledge application, usually in form of innovation outcomes (Cohen and Levinthal, 1989, 1990). Considering ACAP as a tool for processing external knowledge, Kostopoulos *et al.* (2011) and Moilanen *et al.* (2014) affirmed that ACAP contributes to a firm's IP. In a recent study, Corral de Zubielqui *et al.* (2016) discovered that ACAP has a direct and positive influence on innovation outcomes and an indirect influence, through innovation, on OP. Most empirical studies have found a positive link between IP and OP (Jiménez-Jiménez and Sanz-Valle, 2011; Corral de Zubielqui *et al.*, 2016).

Based on the argument that marketing capabilities are directly related with ACAP, we proposed that MIC and NPDC precede IP, which then impacts OP. Thus, we proposed a double mediation in the relationship between ACAP and OP in the following hypotheses:

*H5a.* MIC and IP mediate the relationship between ACAP and organizational performance.

*H5b.* NPDC and IP mediate the relationship between ACAP and organizational performance.

4. Methodology

4.1 Sampling and data collection

For this quantitative study, we used a structured survey. The sampling frame was chosen from a database of 1.916 manufacturing firms in Brazil. The sample selected was motivated by the aim of examining innovation within firms, including product innovation. Thus, these companies were likely to place emphasis on both ACAP and marketing capabilities.

To guarantee measurement scale validity and reliability, we followed the procedures described in the literature (Creswell, 2010). There were 544 responses to the survey. The database was cleaned leaving 333 valid responses. A test for outliers found no influential outliers and no case of skewness or kurtosis.

4.2 Research variables and measurement assessment

ACAP was measured using a scale from Flatten *et al.* (2011), with four dimensions, as suggested by Zahra and George (2002): acquisition, assimilation, transformation, and exploitation. MIC was measured using a scale from Merrilees *et al.* (2011) based on the development of new ideas, cost management, and efficiency finding solutions faster than competitors.

Innovation capability was measured with Jiménez-Castillo and Sánchez-Pérez's (2013) scale. NPDC was measured using a scale from Murray *et al.* (2011), which measures the firms' ability to manage, develop, and launch new products successfully. Finally, OP was evaluated through two dimensions: marketing performance and financial performance (Merrilees *et al.*, 2011), composed of questions about profitability, ROI, sales revenues, market shares, and new customer acquisition (Figure 1).

All variables were measured using seven-point Likert-type scales. Table I shows the constructs, loadings, and *t*-values of the scales. The internal consistency, convergence, and discriminant validity of our measurement models were assessed. Table II shows the results for average variance extracted (AVE), composite reliability (CR) of the constructs, and Cronbach's  $\alpha$ . The results shown in Table II are above the recommended threshold values of 0.70 for CR and 0.50 for AVE (Bagozzi and Yi, 2012). Additionally, discriminant validity was

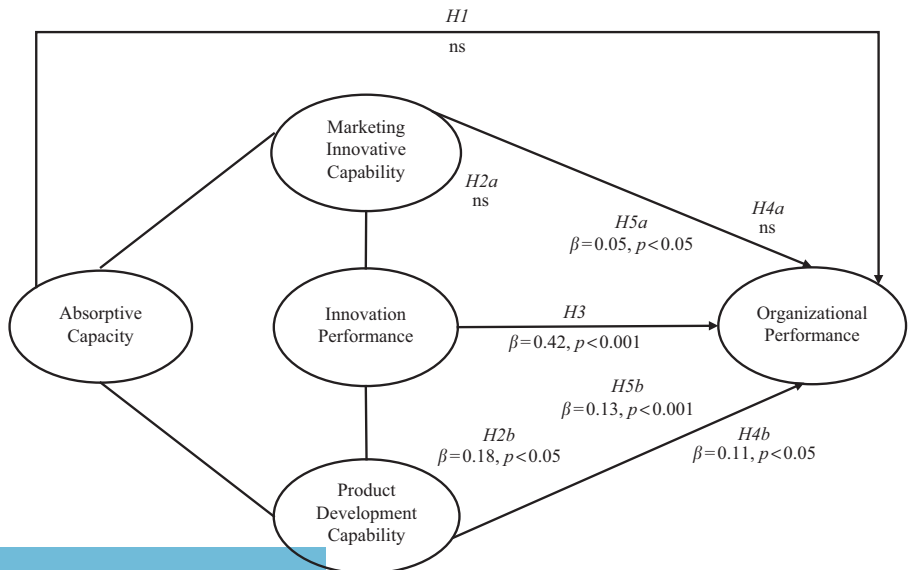


Figure 1. Theoretical model with results

	$\lambda_{ij}$	t-Value
<i>Absorptive capacity</i>		
The search for relevant information concerning our industry is everyday business in our company	0.87	18.28
Our management motivates the employees to use information sources within our industry	0.81	16.96
Our management expects that the employees deal with information beyond our industry	0.85	18.28
In our company, ideas and concepts are communicated cross-department	0.78	13.82
Our management emphasizes cross-departmental support to solve problems	0.78	13.88
In our company there is a quick information flow, e.g., if a business unit obtains important information it communicates this information promptly to all other business units or departments	0.83	14.72
Our management demands periodical cross-departmental meetings to interchange new developments, problems, and achievements	0.74	14.72
Our employees have the ability to structure and to use collected knowledge	0.84	17.90
Our employees are used to absorbing new knowledge as well as to preparing it for further purposes and making it available	0.84	17.81
Our employees successfully link existing knowledge with new insights	0.81	16.92
Our employees are able to apply new knowledge in their practical work	0.82	17.81
Our management supports the development of prototypes	0.80	17.60
Our company regularly reconsiders technologies and adapts them in accordance to new knowledge	0.86	19.40
Our company has the ability to work more effectively by adopting new technologies	0.88	17.60
<i>Marketing innovative capability</i>		
Better at developing new ideas to help customers	0.70	14.09
More able to fast track new offerings to customers	0.79	13.26
Better able to manage processes to keep costs down	0.83	13.85
More able to package a total solution to solve customer problems	0.85	14.09
<i>New product development capability</i>		
We manage new products well	0.74	13.78
We develop new products to exploit R&D investment	0.78	14.61
We speedily develop and launch new products	0.72	13.36
We manage overall new product development systems market well	0.68	12.40
We successfully launch new products	0.78	12.49
<i>Innovation performance</i>		
The overall performance of our new product development program	0.82	17.63
From an overall profitability standpoint, our new product development program has been successful	0.81	16.79
Compared with our major competitors, our overall new product development program is far more successful	0.84	17.63
Our company makes considerable profit from its new products	0.80	16.46
<i>Organizational performance (compared to competitors)</i>		
Is more profitable	0.74	13.45
Has a better return on investment	0.76	15.13
Is better able to reach financial goals	0.71	14.24
Stronger growth in sales revenue	0.79	13.03
Better able to acquire new customers	0.73	14.02
Has a greater market share	0.81	13.03
Able to increase sales to existing customers	0.77	14.56
<b>Notes:</b> Measurement model fit (CMIN/DF: 1.93; NFI: 0.85; CFI: 0.92; RMSEA: 0.05; SRMR: 0.05; HOELTER 0.05: 188; HOELTER 0.01: 195)		

**Table I.**  
Scale measurement

assessed by comparing the square root of AVE greater than correlations, as Fornell and Larcker (1981) recommended.

Then, we analyzed common method bias by applying the principles suggested by Podsakoff *et al.* (2012): common latent factor and marker variable. The common method bias was identified in our model by a significant  $\chi^2$  difference test between a zero-constrained



and an unconstrained model. Then, we controlled for the competitive intensity (marker variable) in our structural analysis (Brashear-Alejandro *et al.*, 2016). Next, we used a structural equation model to test the proposed hypotheses (Table III).

**5. Results and discussion**

Despite what the ACAP model of Zahra and George (2002) suggests, a direct relationship between ACAP and OP, in our sample, *H1* was not supported. Our result corroborates with the findings of those researchers who noted only indirect relationships between ACAP and performance (Bharati *et al.*, 2014; Ali *et al.*, 2016; Corral de Zubielqui *et al.*, 2016; Kostopoulos *et al.* 2011). This finding also underscores that a mediated relationship between ACAP and OP should exist, as we proposed in the other hypothesis. The simple acquisition and assimilation of external knowledge, without effective transformation and commercialization through specific innovation outputs, cannot lead to concrete financial results for organizations over time (Kostopoulos *et al.*, 2011).

Our result for *H2a* (MIC-OP) was not statistically significant. According to Teece *et al.* (1997), firms must own their capability to develop innovations in order to seek to compete successfully in the market. However, the authors did not propose a direct relationship. Likewise, some studies have failed to find a direct relationship between marketing capabilities and OP (María *et al.*, 2010; Cruz-Ros *et al.*, 2010). Based on that, we can infer that MIC might be related to OP, but not in a direct relationship.

On the other hand, our results did support *H2b* (NPDC-OP), in accordance with some authors who argue that marketing capabilities are positively related with performance (Theodosiou *et al.*, 2012; Vorhies and Morgan, 2005).

**Table II.**  
Cronbach's  $\alpha$ , CR, AVE, and discriminant validity measurements

	Cronbach's								
	$\alpha$	CR	AVE	1	2	3	4	5	6
1. Absorptive capavity	0.90	0.81	0.51	0.72					
2. Organizational performance	0.90	0.91	0.58	0.55**	0.76				
3. Innovative performance	0.89	0.89	0.67	0.58***	0.64***	0.82			
4. New product development capability	0.86	0.85	0.58	0.60***	0.55***	0.58***	0.76		
5. Innovative capability	0.87	0.87	0.64	0.68***	0.42***	0.43***	0.49***	0.80	
6. Marker		0.83	0.50	0.33***	0.34***	0.20***	0.24***	0.37***	0.71

Notes: \* $p < 0.05$ ; \*\*\* $p < 0.001$

**Table III.**  
Hypotheses test and path estimations

Hypotheses	Theoretical model			Marker variable		
	Coefficients standardized	$p$ -Value	$R^2$	Coefficients standardized	$p$ -Value	$R^2$
<i>H1</i> : ACAP $\rightarrow$ OP	0.20	0.06	0.47	0.17	0.08	0.50
<i>H2a</i> : MIC $\rightarrow$ OP	0.02	0.85		-0.03	0.70	
<i>H2b</i> : NPDC $\rightarrow$ OP	0.19	0.02		0.18	0.02	
<i>H3</i> : IP $\rightarrow$ OP	0.42	***		0.42	***	
<i>H4a</i> : ACAP $\rightarrow$ MIC $\rightarrow$ OP	0.01	0.82		-0.02	0.70	
<i>H4b</i> : ACAP $\rightarrow$ NPDC $\rightarrow$ OP	0.12	0.03		0.11	0.04	
<i>H5a</i> : ACAP $\rightarrow$ MIC $\rightarrow$ IP $\rightarrow$ OP	0.06	0.00		0.05	0.00	
<i>H5b</i> : ACAP $\rightarrow$ NPDC $\rightarrow$ IP $\rightarrow$ OP	0.13	***		0.13	***	

Notes: Bootstrap resampling procedure in AMOS (333 cases, 2,000 runs).  $R^2$  values correspond to OP. Structural model fit (CMIN/DF: 2.02; NFI: 0.87; CFI: 0.93; RMSEA: 0.06; SRMR: 0.06; HOELTER 0.05: 183; HOELTER 0.01: 191). \*\*\* $p < 0.001$

*H3* (IP-OP) was supported as well. The literature, including empirical tests proving that the most innovative companies have better results (Lawson and Samson, 2001), suggests that there is a positive relationship between innovation and OP.

Nevertheless, the hypothesized mediatory role of MIC on the relationship between ACAP and OP (*H4a*) was not supported. Related to organizational innovation capabilities, Kostopoulos *et al.* (2011) stated that the success of an innovation is not guaranteed. Following this same idea, Baker and Sinkula (2005) noted that it is difficult to predict whether customers will adopt new products and services. Therefore, according to the authors, an expected return is always uncertain. We can infer that these arguments may also provide an explanation for rejection of *H2a*. According to Kostopoulos *et al.* (2011), several studies have found conflicting empirical findings on the relationship between innovation and performance (Morgan and Berthon, 2008).

Our findings on *H4b* agree with Fosfuri and Tribó (2008) that a firm's ACAP is not a goal in itself. We found – in accordance with Newey and Shulman (2004) and Stock *et al.* (2001) – that ACAP positively influences NPDC. Fosfuri and Tribó (2008) found in their research on Spanish organizations that firms with higher levels of potential ACAP could achieve better OP through new or improved products. Therefore, *H4b* is confirmed ( $\beta = 0.11, p < 0.05$ ).

We confirmed *H5a* (ACAP-MIC-IP-OP) ( $\beta = 0.05, p < 0.05$ ). The claim that the double mediation of MIC passes through IP to have an effect on the relationship between ACAP and OP was supported by our data. Some studies have considered that market knowledge (ACAP) is a main driver of IP (Li and Calantone 1998). Other studies have found that a firm's ACAP significantly influences the firm's ability to innovate (MIC) (Cohen and Levinthal, 1990; Knudsen and Roman, 2004). According to our study, however, MICs are not related directly to OP. In our findings, IP needs to mediate this relationship in order for OP to improve.

Finally, *H5b* (ACAP-NPC-IP-OP) was supported ( $\beta = 0.13, p < 0.001$ ). According to Kostopoulos *et al.*'s (2011) findings, ACAP assists firms in modifying existing organizational practices and developing new cognitive schemas. Such changes allow firms to pursue new product developments and extend new product lines (Kazanjian *et al.*, 2002). These activities help firms to promote financial performance and achieve competitive advantage (Lane *et al.*, 2006; Zahra and George, 2002).

According to Zhao *et al.* (2010), most of the mediation found in this study (*H4b-H5b*) can be classified as indirect-only mediation. This classification is due to the effects of ACAP (independent variable) on the mediators (NPDC, MIC-IP, and NPDC-IP) and OP (dependent variable) that were significant. However, the direct relationship of ACAP-OP is not significant, thus characterizing indirect mediation. The only mediation that is classified as no-effect nonmediation is *H4a* (ACAP-MIC-OP) because there is no direct or indirect effect.

## 6. Conclusions and research implications

The purpose of this study was to analyze the mediating influence of marketing capabilities (MIC and NPDC) and IP on the relationship between ACAP and OP. Our study contributes to exploring the effects of absorbed external knowledge on performance when this knowledge is mediated by different marketing capabilities (Corral de Zubiegui *et al.*, 2016). While ACAP has no direct or significant relation with OP, ACAP does have a positive, indirect effect on OP through NPDC. At the same time, there is a double mediated relationship when IC and IP are included in our model. IP plays a mediating role with NPDC in the relationship between ACAP and OP, as well.

We also contributed to the existing literature by elucidating the relationship between ACAP and innovation results, diminishing the research gap stressed by Kostopoulos *et al.* (2011). According to Henard and Szymanski (2001), linking its capabilities to product innovations is

central to a firm's continuing existence. ACAP aids firms in reaching innovation, developing new products, and, finally, improving their financial performance.

This research adds to an emerging body of literature on the outcomes of ACAP (Fosfuri and Tribó, 2008). In it, we tested some mediators of ACAP and OP outcomes and found that an organization that invests in ACAP also invests in marketing capabilities and IP controls in order to reach peak OP, resulting in performance differences among firms (Todorova and Durisin, 2007). Finally, following the same line as Kostopoulos *et al.*'s (2011) theoretical research, we studied ACAP as a DC (Zahra and George, 2002).

## 7. Managerial implications, limitations, and research directions

Given our results, we can say that external knowledge is important to differentiate firms from competitors. These findings can help managers to improve their understanding of the importance of external knowledge resources and marketing capabilities. As the relationship between absorbed knowledge and OP is fully mediated by marketing capabilities, managers should invest in both in order to achieve improved marketing capabilities. For example, when firms increase their process complexity through allying different capabilities, competitors will face more difficulties to copying these new products or innovations.

Another managerial implication is related to benefits of findings to well-established firms and new ventures. Both types can benefit from marketing capabilities studied, NPDC and MIC. To new ventures, it is more valuable to develop marketing capabilities than depend on someone else to market their offerings, for instance. Xiong and Bharadwaj (2011) postulated that some marketing alliance partners are well-known firms, and they will try to benefit themselves from new ventures' new ideas and innovative products. In that sense, one way young firms can avoid this situation is by developing their marketing capabilities through ACAP.

On the other hand, well-established firms can benefit from NPDC and MIC, once they face other well-established companies that seek to develop themselves to add more value to products and customers, and work hard to create competitive advantage. Thus, the speed of information nowadays asks for companies to increase their capabilities to create heterogeneity among competitors, and differentiate themselves. External knowledge that ACAP brings to organizations can be improved by marketing capabilities, for example.

Some limitations of this research include a common method bias, with the sample gathered in just one country and in just one sector (manufacturing). Moreover, our data were collected only in one moment of time (transversal data). For future research, we suggest ACAP could be tested in a disaggregate manner. We also propose sector comparative studies as well as country comparative studies. Control variables such as firms' ages or team characteristics should also be investigated to provide more insights into the relationships among ACAP, marketing capabilities, and firm performance. Finally, we suggest a longitudinal study to verify the relationships among firms' capabilities and determine whether they are maintained over the long term. Longitudinal studies in this area would also reinforce the validity of empirical evidence that elucidates the role ACAP plays on marketing capabilities and OP.

## References

- Akgün, A.E., Keskin, H. and Byrne, J. (2009), "Organizational emotional capability, product and process innovation, and firm performance: an empirical analysis", *Journal of Engineering and Technology Management*, Vol. 26 No. 3, pp. 103-130.
- Ali, M., Seny Kan, K.A. and Sarstedt, M. (2016), "Direct and configurational paths of absorptive capacity and organizational innovation to successful organizational performance," *Journal of Business Research*, Vol. 69 No. 11, pp. 5317-5323.

- Bagozzi, R.P. and Yi, Y. (2012), "Specification, evaluation, and interpretation of structural equation models", *Journal of the Academy of Marketing Science*, Vol. 40 No. 1, pp. 8-34.
- Baker, W.E. and Sinkula, J.M. (2005), "Environmental marketing strategy and firm performance: effects on new product performance and market share", *Journal of the Academy of Marketing Science*, Vol. 33 No. 4, pp. 461-475.
- Barney, J. (1991), "Firm resources and sustained competitive advantage", *Journal of Management*, Vol. 17 No. 1, pp. 99-120.
- Bharati, P., Zhang, C. and Chaudhury, A. (2014), "Social media assimilation in firms: investigating the roles of absorptive capacity and institutional pressures", *Information Systems Frontiers*, Vol. 16 No. 2, pp. 257-272.
- Brashear-Alejandro, T., Kang, J. and Groza, M.D. (2016), "Leveraging loyalty programs to build customer-company identification", *Journal of Business Research*, Vol. 69 No. 3, pp. 1190-1198.
- Cassiman, B. and Veugelers, R. (2002), "R&D cooperation and spillovers: some empirical evidence from Belgium", *The American Economic Review*, Vol. 92 No. 4, pp. 1169-1184.
- Cavusgil, S.T., Calantone, R.J. and Zhao, Y. (2003), "Tacit knowledge transfer and firm innovation capability", *Journal of Business & Industrial Marketing*, Vol. 18 No. 1, pp. 6-21.
- Cohen, W.M. and Levinthal, D.A. (1989), "Innovation and learning: the two faces of R&D", *The Economic Journal*, Vol. 99 No. 397, pp. 569-596.
- Cohen, W.M. and Levinthal, D.A. (1990), "Absorptive capacity: a new perspective on learning and innovation", *Administrative Science Quarterly*, Vol. 35 No. 1, pp. 128-152.
- Corral de Zubielqui, G., Jones, J. and Statsenko, L. (2016), "Managing innovation networks for knowledge mobility and appropriability: a complexity perspective", *Entrepreneurship Research Journal*, Vol. 6 No. 1, pp. 75-109.
- Creswell, J.W. (2010), *Projeto de pesquisa: métodos qualitativo, quantitativo e misto*, Artmed, Porto Alegre.
- Cruz-Ros, S., Cruz, T.F.G. and Pérez-Cabañero, C. (2010), "Marketing capabilities, stakeholders' satisfaction, and performance", *Service Business*, Vol. 4 Nos 3-4, pp. 209-223.
- Day, G.S. (1994), "The capabilities of market-driven organizations", *The Journal of Marketing*, Vol. 58 No. 4, pp. 37-52.
- Dierickx, I. and Cool, K. (1989), "Asset stock accumulation and sustainability of competitive advantage", *Management Science*, Vol. 35 No. 12, pp. 1504-1511.
- Ernst, H., Hoyer, W.D. and RübSaamen, C. (2010), "Sales, marketing, and research-and-development cooperation across new product development stages: implications for success", *Journal of Marketing*, Vol. 74 No. 5, pp. 80-92.
- Flatten, T.C., Engelen, A., Zahra, S.A. and Brettel, M. (2011), "A measure of absorptive capacity: scale development and validation", *European Management Journal*, Vol. 29 No. 2, pp. 98-116.
- Fornell, C. and Larcker, D.F. (1981), "Structural equation models with unobservable variables and measurement error: algebra and statistics", *Journal of Marketing Research*, Vol. 18 No. 3, pp. 382-388.
- Fosfuri, A. and Tribó, J.A. (2008), "Exploring the antecedents of potential absorptive capacity and its impact on innovation performance", *Omega*, Vol. 36 No. 2, pp. 173-187.
- García-Morales, V.J., Ruiz-Moreno, A. and Llorens-Montes, F.J. (2007), "Effects of technology absorptive capacity and technology proactivity on organizational learning, innovation, and performance: an empirical examination", *Technology Analysis & Strategic Management*, Vol. 19 No. 4, pp. 527-558.
- Henard, D.H. and Szymanski, D.M. (2001), "Why some new products are more successful than others", *Journal of Marketing Research*, Vol. 38 No. 3, pp. 362-375.
- Hooley, G.J., Greenley, G.E., Cadogan, J.W. and Fahy, J. (2005), "The performance impact of marketing resources", *Journal of Business Research*, Vol. 58 No. 1, pp. 18-27.

- Hsieh, M.H. and Tsai, K.H. (2007), "Technological capability, social capital and the launch strategy for innovative products", *Industrial Marketing Management*, Vol. 36 No. 4, pp. 493-502.
- Hult, G.T.M., Ketchen, D.J. and Slater, S.F. (2005), "Market orientation and performance: an integration of disparate approaches", *Strategic Management Journal*, Vol. 26 No. 12, pp. 1173-1181.
- Jiménez-Barrionuevo, M.M., García-Morales, V.J. and Molina, L.M. (2011), "Validation of an instrument to measure absorptive Capacity", *Technovation*, Vol. 31 Nos 5-6, pp. 190-202.
- Jiménez-Castillo, D. and Sánchez-Pérez, M. (2013), "Nurturing employee market knowledge absorptive capacity through unified internal communication and integrated information technology", *Information & Management*, Vol. 50 Nos 2-3, pp. 76-86.
- Jiménez-Jiménez, D. and Sanz-Valle, R. (2011), "Innovation, organizational learning, and performance", *Journal of Business Research*, Vol. 64 No. 4, pp. 408-417.
- Katila, R. and Ahuja, G. (2002), "Something old, something new: a longitudinal study of search behavior and new product introduction", *Academy of Management Journal*, Vol. 45 No. 6, pp. 1183-1194.
- Kazanjian, R.K., Drazin, R. and Glynn, M.A. (2002), "Implementing structures for corporate entrepreneurship: a knowledge-based perspective", in Hill, M., Ireland, D., Camp, M. and Sexton, D. (Eds), *Strategic Entrepreneurship: Creating an Integrated Mindset*, Blackwell, Oxford, pp. 173-199.
- Knudsen, H.K. and Roman, P.M. (2004), "Modeling the use of innovations in private treatment organizations: the role of absorptive capacity", *Journal of Substance Abuse Treatment*, Vol. 26 No. 1, pp. 51-59.
- Kostopoulos, K., Papalexandris, A., Papachroni, M. and Ioannou, G. (2011), "Absorptive capacity, innovation, and financial performance", *Journal of Business Research*, Vol. 64 No. 12, pp. 1335-1343.
- Lane, P.J., Koka, B.R. and Pathak, S. (2006), "The reification of absorptive capacity: a critical review and rejuvenation of the construct", *Academy of Management Review*, Vol. 31 No. 4, pp. 833-863.
- Lane, P.J., Salk, J.E. and Lyles, M.A. (2001), "Absorptive capacity, learning, and performance in international joint ventures", *Strategic Management Journal*, Vol. 22 No. 12, pp. 1139-1161.
- Laursen, K. and Salter, A. (2004), "Searching high and low: what types of firms use universities as a source of innovation?", *Research Policy*, Vol. 33 No. 8, pp. 1201-1215.
- Lawson, B. and Samson, D. (2001), "Developing innovation capability in organisations: a dynamic capabilities approach", *International Journal of Innovation Management*, Vol. 5 No. 3, pp. 377-400.
- Lengnick-Hall, C.A. and Wolff, J.A. (1999), "Similarities and contradictions in the core logic of three strategy research streams", *Strategic Management Journal*, Vol. 20 No. 12, pp. 1109-1132.
- Li, T. and Calantone, R.J. (1998), "The impact of market knowledge competence on new product advantage: conceptualization and empirical examination", *The Journal of Marketing*, Vol. 62 No. 4, pp. 13-29.
- Liu, G. and Ko, W.W. (2012), "Organizational learning and marketing capability development: a study of the charity retailing operations of British social enterprise", *Nonprofit and Voluntary Sector Quarterly*, Vol. 41 No. 4, pp. 580-608.
- María, R.M., Abando, J.C. and De la Mata, A.A. (2010), "Un modelo causal de competitividad empresarial planteado desde la VBR: capacidades directivas, de innovación, marketing y calidad", *Investigaciones Europeas de Dirección y Economía de la Empresa*, Vol. 16 No. 2, pp. 165-188.
- Merrilees, B., Rundle-Thiele, S. and Lye, A. (2011), "Marketing capabilities: antecedents and implications for B2B SME performance", *Industrial Marketing Management*, Vol. 40 No. 3, pp. 368-375.
- Moilanen, M., Østbye, S. and Woll, K. (2014), "Non-R&D SMEs: external knowledge, absorptive capacity and product innovation", *Small Business Economics*, Vol. 43 No. 2, pp. 447-462.
- Morgan, N.A. (2012), "Marketing and business performance", *Journal of the Academy of Marketing Science*, Vol. 40 No. 1, pp. 102-119.

- Morgan, R.E. and Berthon, P. (2008), "Market orientation, generative learning, innovation strategy, and business performance inter-relationships in bioscience firms", *Journal of Management Studies*, Vol. 45 No. 8, pp. 1329-1353.
- Murray, J.Y., Gao, G.Y. and Kotabe, M. (2011), "Market orientation and performance of export ventures: the process through marketing capabilities and competitive advantages", *Journal of the Academy of Marketing Science*, Vol. 39 No. 2, pp. 252-269.
- Newbert, S.L. (2007), "Empirical research on the resource-based view of the firm: an assessment and suggestions for future research", *Strategic Management Journal*, Vol. 28 No. 2, pp. 121-146.
- Newey, L.R. and Shulman, A.D. (2004), "Systemic absorptive capacity: creating early-to-market returns through R&D alliances", *R&D Management*, Vol. 34 No. 5, pp. 495-504.
- Penrose, E.T. (1959), *The Theory of the Growth of the Firm*, Sharpe, New York, NY.
- Podsakoff, P.M., MacKenzie, S.B. and Podsakoff, N.P. (2012), "Sources of method bias in social science research and recommendations on how to control it", *Annual Review of Psychology*, Vol. 63, pp. 539-569.
- Priem, R.L. and Butler, J.E. (2001), "Is the resource-based 'view' a useful perspective for strategic management research?", *Academy of management review*, Vol. 26 No. 1, pp. 22-40.
- Sirmon, D.G., Hitt, M.A. and Ireland, R.D. (2007), "Managing firm resources in dynamic environments to create value: looking inside the black box", *Academy of management review*, Vol. 32 No. 1, pp. 273-292.
- Slater, S.F., Olson, E.M. and Hult, G.T.M. (2006), "The moderating influence of strategic orientation on the strategy formation capability-performance relationship", *Strategic Management Journal*, Vol. 27 No. 12, pp. 1221-1231.
- Steinberg, P.J., Procher, V.D. and Urbig, D. (2017), "Too much or too little of R&D offshoring: the impact of captive offshoring and contract offshoring on innovation performance", *Research Policy*, Vol. 46 No. 10, pp. 1810-1823.
- Stock, G.N., Greis, N.P. and Fischer, W.A. (2001), "Absorptive capacity and new product development", *The Journal of High Technology Management Research*, Vol. 12 No. 1, pp. 77-91.
- Teece, D.J., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, Vol. 18 No. 7, pp. 509-533.
- Theodosiou, M., Kehagias, J. and Katsikea, E. (2012), "Strategic orientations, marketing capabilities and firm performance: an empirical investigation in the context of frontline managers in service organizations", *Industrial Marketing Management*, Vol. 41 No. 7, pp. 1058-1070.
- Thorpe, E.R. and Morgan, R.E. (2007), "In pursuit of the 'ideal approach' to successful marketing strategy implementation", *European Journal of Marketing*, Vol. 41 Nos 5/6, pp. 659-677.
- Todorova, G. and Durisin, B. (2007), "Absorptive capacity: valuing a reconceptualization", *Academy of management review*, Vol. 32 No. 3, pp. 774-786.
- Tsai, W. (2001), "Knowledge transfer in intraorganizational networks: effects of network position and absorptive capacity on business unit innovation and performance", *Academy of Management Journal*, Vol. 44 No. 5, pp. 996-1004.
- Tuan, N., Nhan, N., Giang, P. and Ngoc, N. (2016), "The effects of innovation on firm performance of supporting industries in Hanoi, Vietnam", *Journal of Industrial Engineering and Management*, Vol. 9 No. 2, pp. 413-431.
- Tzokas, N., Kim, Y.A., Akbar, H. and Al-Dajani, H. (2015), "Absorptive capacity and performance: the role of customer relationship and technological capabilities in high-tech SMEs", *Industrial Marketing Management*, Vol. 47, pp. 134-142.
- Vorhies, D.W. and Morgan, N.A. (2005), "Benchmarking marketing capabilities for sustainable competitive advantage", *Journal of marketing*, Vol. 69 No. 1, pp. 80-94.
- Wales, W.J., Gupta, V.K. and Mousa, F.T. (2013), "Empirical research on entrepreneurial orientation: an assessment and suggestions for future research", *International Small Business Journal*, Vol. 31 No. 4, pp. 357-383.

- Wuryaningrat, N.F. (2013), "Knowledge sharing, absorptive capacity and innovation capabilities: an empirical study on small and medium enterprises in North Sulawesi, Indonesia", *Gadjah Mada International Journal of Business*, Vol. 15 No. 1, pp. 61-77.
- Xiong, G. and Bharadwaj, S. (2011), "Social capital of young technology firms and their IPO values: the complementary role of relevant absorptive capacity", *Journal of Marketing*, Vol. 75 No. 6, pp. 87-104.
- Yang, J., Brashear, T.G. and Asare, A. (2015), "The value relevance of brand equity, intellectual capital and intellectual capital management capability", *Journal of Strategic Marketing*, Vol. 23 No. 6, pp. 543-559.
- Zahra, S.A. and George, G. (2002), "Absorptive capacity: a review, reconceptualization, and extension", *Academy of Management Review*, Vol. 27 No. 2, pp. 185-203.
- Zhao, X., Lynch, J.G. and Chen, Q. (2010), "Reconsidering Baron and Kenny: myths and truths about mediation analysis", *Journal of Consumer Research*, Vol. 37 No. 2, pp. 197-206.

**Corresponding author**

Juliana Conceição Noschang da Costa can be contacted at: [julianacncosta@gmail.com](mailto:julianacncosta@gmail.com)

For instructions on how to order reprints of this article, please visit our website:

[www.emeraldgroupublishing.com/licensing/reprints.htm](http://www.emeraldgroupublishing.com/licensing/reprints.htm)

Or contact us for further details: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.