The moderating effect of firm size on relational capital and firm performance: Evidence from Europe

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(Article begins on next page)
Abstract

Purpose – This paper aims to contribute to the ongoing debate regarding the relationship between relational capital and firm performance, by investigating the moderation effect of firm size and its key role in defining conditions for competitive advantage. 

Design/methodology/approach – The paper uses the interpretative lens of the resource dependence theory, and refreshes consolidated studies rooted in relational capital. It identifies a set of variables to measure the influence of relational capital on firm performance, including the cost of goods sold, interest expenses, and earnings per share. Content analysis was used to capture specific features of corporate disclosure tools using 51 items pertinent to relational capital. We used a specific disclosure index drawing on data collected from 73 listed firms in France, Germany, Italy and the United Kingdom. Data covering the period from 2011 to 2013 were analyzed using six regression models.

Findings – Firm size has a moderating effect on the relationship between relational capital and some variables linked to firm performance.

Originality/value – The study combines an internal and external perspective to investigate the interplay between firms and market environments, and therefore enriches the ongoing debate concerning the relationship between relational capital and firm performance. It outlines possible ways through which relational capital can become an effective source of competitive advantage.

Keywords: Relational capital; Firm performance; Firm size; Moderation effect; Content analysis; European context

Paper type: Research paper

1. Introduction

Recently, there have been several market and organizational changes that have affected social and economic dynamics. These require a radical reconsideration of the levers firms can use to help them survive by creating long-term and defendable competitive advantages (Miles, 1975; Hofstede, 1993; Ghoshal, 2005; Calabrese et al., 2018; Tronvoll et al., 2018). A number of organizational, marketing, managerial, and economic studies have responded to organizations’ requests for new conceptual frameworks, managerial approaches, and technical instruments to support a better understanding and managing of emerging market configurations. Several studies have focused on the advantages that firms can obtain by efficient approaches to managing the multiple dimensions of intellectual capital (Malone, 1997; Petty and Guthrie, 2000). This paper recognizes the relevance of this research field in providing more efficient managerial models and approaches, and aims to focus attention on the specific issue of relational capital (RC). It considers it as a wider concept covering variables, processes, and dynamics related to the value that a firm can produce as a consequence of its interaction with its market environment (Martin de Castro et al., 2004; Bianchi Martini et al., 2016).

The paper used the interpretative lens of the resource dependence theory (RDT) (Scott 1987; Pfeffer and Nowak, 1996) as a way to systematize and refresh the literature regarding RC. Reflecting upon previous contributions about the effect of firm size on RC and firm performance, the paper...
underlines the existence of a research gap with reference to the ways in which companies can manage these variables for better qualifying their relationships with social and economic environment. For bridging this gap, we identified several variables for firm performance that may be influenced by RC. They are both internal and external to the firm, but related to its relationship with its external environment. These included the cost of goods sold, interest expenses, and earnings per share. Research hypotheses were developed for these variables, and the possible moderating effect of firm size was investigated for each of them. The hypotheses were tested using a mix of qualitative and quantitative approaches, including content analysis (Weber, 1990) and regression models (De Jong, 1993). We used a sample of 73 listed firms in France, Germany, Italy and United Kingdom for the period from 2011 to 2013.

The research path was developed to contribute to the ongoing debate regarding the relationship between RC and firm performance, and particularly the moderating effect of firm size. The rest of paper is structured as follows: Section 2 sets out the theoretical framework, Section 3 reviews the literature and derives a set of research hypotheses, Section 4 describes the methods used, Sections 5 and 6 respectively explains and discusses the findings, Section 7 provides theoretical and practical implications. Finally, Section 8 draws conclusions, portrays limitations and suggests future research avenues.

2. Theoretical framework

It is challenging to define a theoretical framework to describe firms’ processes and support easy identification of elements and conditions that can influence firm performance. This has attracted attention from researchers and practitioners in both managerial and economic fields (Miles, 1975; Hofstede, 1993; Ghoshal, 2005). In line with prior studies in the social sciences, the contributions interested in defining theoretical frameworks under the managerial umbrella have been influenced by the high level of subjectivity through which it is possible to observe, analyze, and describe firms’ structure and processes (Goulding, 2002). This subjectivity means that many theories have been developed. These include the transaction cost view, which focuses on the relationship between firms and their environment, and the associated costs (Williamson, 1975; Barringer and Harrison, 2000). The relational view focuses on the opportunity for firms to improve their performance by collaborating with other economic and social actors (Dyer and Singh, 1998). The extended resource-based view explains firms’ competitiveness as their ability to combine internal and external resources to obtain individual advantages (Lavie, 2006). The social exchange theory extends the managerial perspective to the social advantages that can influence individual performance and how individuals collaborate to achieve firm objectives (Das and Teng, 2002).

This paper rests on the resource dependence theory (RDT) (Scott 1987; Pfeffer and Nowak, 1996). Studies rooted in the RDT suggest that firms’ survival depends on their ability to interact with their external environment to acquire resources that are not available within the firm (Barringer and Harrison, 2000). The RDT offers opportunities to look beyond firms’ boundaries in managerial studies (Paulraj and Chen, 2007), focusing on the relationships between firms and their environment. Saeed et al. (2016) stated that the RDT is therefore an interpretative lens through which firms’ actions and decisions can be understand and explained in the light of their role within a defined environment, and as a consequence of firms’ ability to effectively manage the resources that are available in that environment.
There have been several studies rooted in the RDT, but the current body of knowledge seems to be predominantly related to the conceptual domain. There is little evidence on how the RDT can be effectively translated into firm strategy and action (Abeysekera, 2010). To bridge this gap, this paper investigates the role of RC using the interpretative lens provided by the RDT, to define how firms can interact with their external environment to obtain conditions and resources that are relevant for their survival. RC is considered to be a result of the value produced for firms by their internal and external relationships (Peng et al., 2007; Martín de Castro and López Sáez, 2008; Léger, 2010). Studies centered on RC emphasize the potential advantages firms can obtain because of the high level of internal and external relationality (Rodriguez Perez et al., 2003; Chen et al., 2005; Bontis and Serenko, 2007; Jardon and Susana Martos, 2012).

Using the interpretative lens provided by the RDT, RC was viewed as a conceptual domain through which we can consider firms’ actions and decisions designed to improve management of the relationships. The next section focuses on RC as a way to improve firm competitiveness through a better relationship with the external environment and therefore better market conditions.

3. Literature review and hypothesis development

3.1 Internal processes and production efficiency

For a long time, studies on firm performance were mainly interested in defining conditions to improve the quality of the relationship between firms and the market (Ravald and Grönroos, 1996; Nimtrakoon, 2015). This approach was strongly based on the assumption that internal efficiency and effectiveness were not directly connected to firm performance within the market (Pelham, 2000; Burt, 2017). The increasing variety and variability of market trends, however, meant that a growing number of researchers and practitioners pointed out that firm performance could also depend on corporate strategy and internal processes (Kaplan and Norton, 2001; Morris et al., 2005). For instance, Dowling (1993) focused attention on how internal processes affect corporate image; Narver and Slater (1990) investigated the relationships between internal activities and market perceptions about firms’ products and services; and Curando (2008) looked into the perceptions of knowledge management and intellectual capital in the banking industry. In studies based on the relationships between internal activities and performance, increasing attention has been focused on contributions rooted in the conceptual framework of RC (Sambasivan et al., 2011).

According to Sanchez et al. (2000, p. 320), RC is “defined as all the intellectual capital linked with the external relationships of the firm, as, for example, the relation with customers”. Ordonez de Pablos (2004, p. 433) noted that “relational capital is unique and difficult for competitors to imitate because it is the result of a long process and because of the existence of numerous links”. Mainstream research has therefore underlined that RC has multiple positive effects on firm organization and performance (De Clercq and Sapienza, 2006; Maurer et al., 2011; Ferraris et al., 2018). However, the effects of RC on relationships between firms and suppliers are often underestimated (Petersen et al., 2008).

Handfield and Bechtel (2002) proposed that RC could directly affect firms’ market power by influencing contractual conditions in supply chain processes. Zhao et al. (2008) focused on how a strong relationship between firms and their economic partners could give firms the opportunity to obtain better economic conditions in market transactions. Building on those contributions, this paper aimed to investigate the influence of RC on firms’ power in market transactions, in terms of the cost of goods sold (COGS). The latter represents an intriguing example of market conditions firms are...
able to obtain, as a result of their relationships with players in their supply chains. We therefore hypothesized:

**HP1:** RC is negatively associated with COGS

There have been several studies concerning the relationships between RC and firms’ relationships in market transactions (Sanzo et al., 2003; Palmer, et al., 2005). These suggest that the influence of RC could be ‘filtered’ by multiple variables, such as the industry (Porter, 2000), the number of interactions (Turnbull et al., 1996; Long Kweh et al., 2014), and the total value of market transactions (Johanson and Mattsson, 1987). Kale et al. (2000) confirmed that RC affects firm performance in different ways, as a result of firm size. Ruf et al. (2001) analyzed the moderator role of firm size on the exchange rate-exporting behavior while Buallay and Hamdan (2019) focused the attention on the moderator role of firm size in the relationship between Corporate Governance and Intellectual Capital. Drawing upon previous studies and aiming to contribute to the ongoing debate about the role of firm size as a moderator variable, we hypothesize:

**HP1a:** In the relationship between RC and COGS, firm size acts as a moderator

3.2 External processes and firms’ relations

Goldman and Nagel (1993) and Durst and Wilhelm (2012) emphasised that firm performance depends on multiple variables not all linked to firms’ ability to manage available resources. The variables not directly linked to internal processes but able to influence performance include the costs of administrative bureaucracy (D’aveni and Ravenscraft, 1994), the costs of market fluctuations (Blaconiere and Patten, 1994), and the costs of changes in consumers’ lifestyles (Kotler, 2011). Another area of costs not directly linked to the internal processes pertains the interest expenses (Thomsen and Pedersen, 2000).

According to Ooi (1999), interest expenses depend on the relationships between firms and their financial partners. They can be defined as the total costs paid by firms to use financial resources. Baker (1990) noted that interest expenses change with interactions among multiple partners. Majumdar and Chibber (1999) observed that interest expenses are influenced by previous relationships between a firm and its financial partners. It is therefore conceivable that interest expenses might be conditioned by firm RC. We suggest that a high level of RC could reduce firms’ interest expenses, and hypothesized:

**HP2:** RC is negatively associated with interest expenses

Extending the perspective of the study in the light of RC as a conceptual umbrella, it is possible to suggest that interest expenses are also influenced by firms’ market power in economic transactions. There are many elements that can define this power, but in particular, Melitz and Ottaviano (2008) noted that large companies have more market power. Majocchi et al. (2005) also pointed out the effect of firm size in defining market relationships, while Brammer and Millington (2006) noted that firm size is an indirect metric for market power. Lee (2017), however, argued that firm size acts as a moderator on the relationship between corporate strategy and actions and the consequent effects on
performance. We therefore suggest that firm size might also influence the relationship between RC and interest expenses. We therefore hypothesized:

**HP2a: Firm size moderates the relationship between RC and interest expenses**

### 3.3 Corporate image and value for shareholders

Moran (2005) suggested that RC influences firm performance in several ways. Building strong relationships with partners and other economic and social players helps to improve market position (Bontis and Fitz-Enz, 2002; Manning, 2010), market perceptions (Dyer, 1997), and consumers’ willingness to buy firms’ products and services (Schoenbachler and Gordon, 2002; Mura et al., 2013). Swart (2006) noted that RC is a conceptual umbrella covering all actions a firm puts in place to enforce internal and external relationships. Studies rooted in relational marketing can therefore be considered as a way for firms to improve their performance by leveraging their relationships with other actors working in the same social and competitive contexts (Ordonez de Pablos, 2004; Cousins et al., 2006; Mu et al., 2008; Caputo et al., 2016b; Saviano et al., 2016; Santoro et al., 2018; Soto-Acosta et al., 2018).

Ahearne et al. (2005) emphasized the role of marketing in helping firms to develop strong relationships with social and economic partners, and therefore improve performance. Caputo et al. (2016a) and Scuotto et al. (2017) showed that firms with high levels of investment in relational marketing showed better performance, and Del Giudice et al. (2016) highlighted a relationship between firms’ activities in the field of relationship marketing and their performance.

A high value of RC positively influences corporate image (Collins and Hitt, 2006) and a positive image increases the opportunities for firms to create more value (Narver and Slater, 1990). It is therefore possible to suggest that RC might condition firm’s ability to create and share economic value, in terms of earnings per share (EPS). Makki et al. (2009) showed that RC has an impact on EPS, while Sydler et al. (2014) highlighted the connections between RC investments and EPS fluctuations. We therefore hypothesized:

**HP3: RC is positively associated with EPS**

Prior studies have also investigated the conditions that influence the relationship between RC and EPS (Veltri and Silvestri, 2011). This relationship may be affected by several factors, including industry (Chu et al., 2008), firm structure (Dorina et al., 2012), and corporate image (Moradi et al., 2013). Komnenic and Pokrajčić (2012) noted that firm size influences the way in which RC investment increases ability to create and share value. Khajavi et al. (2016) maintained that firm size acts as a moderator in defining the impact of RC over firm attitude towards sharing value with its shareholders. Still, Riege (2005) underlined that firm size can influence effectiveness of knowledge sharing practices. We therefore hypothesized:

**HP3a: Firm size moderates the relationship between RC and EPS**
4. Research path and methodology

We used content analysis because of its effectiveness in capturing specific features of corporate disclosure tools, such as annual and sustainability reports, as well as other narratives providing non-financial information (Weber, 1990; Hayes and Krippendorff, 2007). Content analysis allowed us to abstract information from corporate reports and also to gauge both the quality and quantity of particular lexical items. Previous studies have used content analysis to build specific disclosure indexes from corporate reports and narratives (Guthrie et al., 2004; De Silva et al., 2014). These indexes examine intellectual capital in greater depth, using from 22 to 100 separate items (Brennan, 2001; Abeysekera and Guthrie, 2005). There are, however, some important issues related to content analysis. These include the selection of units included in a text (i.e. words, paragraphs and so on); the kind of corporate reports chosen; the search mode (i.e. by hand or using software); and the calculation of an index (i.e. via dummy or by determining frequency and number of each item).

To safeguard the reliability of semantic groups and indexes deriving from the use of the content analysis, Krippendorff (2008, 2013) recommended the adoption of particular softwares and specific tests. We therefore used the TaLTac2 software for our content analysis. From the methodological point of view, this choice is linked to the need to substantially reduce researcher subjectivity and also facilitate the replicability of the codification process. The main sources used in content analysis were mandatory and voluntary reports (Guthrie et al., 2004; Evangelista et al., 2016). The latter enabled us to gather non-financial information and break down the firm’s business model from social and environmental and/or corporate social responsibility reports, as well as codes of conduct (Roslander and Wilson, 2008). The process involved collecting pdf versions of the relevant reports from corporate websites. These were converted from “pdf” to “txt”, because this is required by TaLTac2. The findings from TaLTac2 were sorted into Excel files, to improve the examination of the RC items.

We used a sample of 80 European listed firms, from France, Germany, Italy and the United Kingdom. These countries were chosen for their high gross domestic product (World Bank Group, 2007). The firms were selected on the basis of the size of market capitalization. This was in line with previous studies (Cairns et al., 2011), and rests on the firm’s influence on equity markets. Continuing the theme of the effect of firm size (Ahmed and Courtis, 1999), large firms often refine their governance and managerial paths, as a consequence of increasing resources (Kang and Gray, 2011). The sample contained no firms operating in the financial industry, such as banks, insurance firms, real estate and investment funds. This was a deliberate choice, drawing on earlier studies (Dahmash et al. 2009; Kvaal and Nobes, 2010), because of the distinctive legislative framework surrounding these organizations, which requires a huge level of compliance and means that there are a number of peculiarities of this sector. The study finally used 73 observations. We eliminated seven firms, because of the unavailability of accounting-based information related to fiscal year 2013 (for six firms) and the absence of helpful findings from the content analysis (for one firm).

Following De Jong’s (1993) suggestions, we ran six ordinary least squares (OLS) regression models, with a lag of two years between the independent and dependent variables. The independent variables were from fiscal year 2011 and the dependent variables from fiscal year 2013. This lag allowed us to better explore the conditions under which the index influenced firm financial performance, in the two subsequent years. The use of this timeframe could, however, imply heteroskedasticity and auto-serial correlation problems, which would weaken the trustworthiness of the findings. We therefore computed robust standard errors by using the Newey–West (HAC) method.
(Wooldridge, 2009). Other tests were applied to tackle multicollinearity and heteroskedasticity concerns, such as the variance inflation factors (VIFs) and the Breusch–Pagan–Godfrey test.

The content analysis focused on 51 items relevant to RC. This allowed us to build a specific disclosure index (RCD) (see Table 1). We used Cronbach’s coefficient (Cronbach, 1951; Carmines and Zellner, 1979) to verify the reliability of the index. This provided our key independent variable, RC. In building the index, a value of 1 was attributed wherever there was at least one occurrence and zero otherwise. The maximum value of the RCD was therefore 51, and the minimum was zero. Cronbach’s coefficient was 0.68. Such result was deemed satisfactory for RC operationalization (Botosan, 1997). The code assigned was RC_Index.

Table 1: Items and categories used for the determination of the RCD

<table>
<thead>
<tr>
<th>Item</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquaintance with community</td>
<td>ALA</td>
</tr>
<tr>
<td>Acquaintance with government</td>
<td>ALA</td>
</tr>
<tr>
<td>Acquaintance with suppliers</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Basic marketing capability/ies</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Brand(s)</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Business collaborations</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Client profile(s)</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Collaboration(s)</td>
<td>ALA</td>
</tr>
<tr>
<td>Commercial power</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Competitive intelligence</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Competitor(s)</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Connectivity</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Corporate image and reputation</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Customer knowledge</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Customer loyalty</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Customer names</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Customer relationship(s)</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Customer reputation</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Customer(s)</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Diffusion</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Distribution</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Distribution channel(ies)</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Environmental activity/ies</td>
<td>ALA</td>
</tr>
<tr>
<td>External contracts</td>
<td>ALA</td>
</tr>
<tr>
<td>Favourable contracts</td>
<td>ALA</td>
</tr>
<tr>
<td>Financial contracts</td>
<td>ALA</td>
</tr>
<tr>
<td>Financial relations</td>
<td>ALA</td>
</tr>
<tr>
<td>Franchise agreements</td>
<td>ALA</td>
</tr>
<tr>
<td>Government and other relationships</td>
<td>ALA</td>
</tr>
<tr>
<td>Image</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Intensity</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Joint ventures</td>
<td>ALA</td>
</tr>
<tr>
<td>Knowledge of community</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Knowledge of government</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Knowledge of suppliers</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Licensing agreement(s)</td>
<td>ALA</td>
</tr>
<tr>
<td>Links with suppliers</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Market intensity</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Market share</td>
<td>K.PSC</td>
</tr>
<tr>
<td>Mergers and acquisitions</td>
<td>ALA</td>
</tr>
<tr>
<td>Negotiating capacity with financial entities</td>
<td>ALA</td>
</tr>
<tr>
<td>Networking</td>
<td>ALA</td>
</tr>
<tr>
<td>New strategic customer(s)</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Private-public partnership(s)</td>
<td>ALA</td>
</tr>
<tr>
<td>Reputation</td>
<td>R.PSC</td>
</tr>
<tr>
<td>Research collaborations</td>
<td>ALA</td>
</tr>
<tr>
<td>Stakeholder(s)</td>
<td>ALA</td>
</tr>
<tr>
<td>Strategic alliance(s)</td>
<td>ALA</td>
</tr>
</tbody>
</table>
Subsidiaries and associates

Suppliers knowledge

Notes: R.PSC = relationships with partners, suppliers and customers
K.PSC = knowledge about partners, suppliers and customers
ALA = alliances, licensing and agreements (Sharabati et al., 2010)

Source: Bianchi Martini et al. (2016, p. 197).

The second independent variable was the effect of government (Gov_Effect). This is important in a cross-country analysis, because it relates to specific features of the legal system, such as the presence of political influence, how policy is formulated and implemented and the feasibility of government action plans (World Bank Group, 2013). For each country in the dataset managed by the World Bank Group, the value ranges from −2.5 (i.e. the minimum value) to + 2.5. The third independent variable was firm size (Large_Size). This variable was based on guidelines from the European Commission (2015, pp. 10–11), and was a dummy variable that takes the value of 1 when a firm had more than 250 employees and exceeded at least one of the following two criteria: total sales greater than or equal to EUR 50 million, and total assets greater than or equal to EUR 43 million.

We explored the moderating effect of this variable on the relationship between RC and firm performance. The control variable was designed to capture a firm-specific feature related to size. Drawing on previous studies (Kasznik and Lev, 1995), we used the natural logarithm of firm total assets (Ln_TA).

Three dependent variables were selected from accounting-based firm performance measures. The first was the cost of goods sold (COGS), which measures the costs related to the acquiring or manufacturing of products or services sold by the firm in a particular period. Prior studies (Kluge, 1997; Dehning et al., 2007) suggested that this metric plays a crucial role in operating performance and therefore in relationships with supply chain members. The second dependent variable was interest expenses (Interest_Expenses), or the costs related to borrowed funds. Unlike COGS, these costs are non-operating expenses and can provide insight into the relationship between firm and financial stakeholders (Purroy and Salas, 2000). The final dependent variable was a key financial performance indicator, earnings per share (EPS). According to some scholars (Ohlson and Juettner-Nauroth, 2005; Bhatt and Sumangula, 2012), this variable is often considered by stakeholders able to assess firm’s attitude to creating value. Accounting-based data were mined from the Factset database. The quantitative analysis used the Eviews statistical package.

5. Findings

Table 2 shows the descriptive statistics. The RCD (RC_Index) shows minimum and maximum values of zero and 23. There are therefore no observations that reached the maximum of 51. Similarly, no countries included in the sample achieved the maximum of 2.5 for assessment of their legal system (Gov_Effect).

Table 2: Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>COGS</th>
<th>Interest_Expenses</th>
<th>EPS</th>
<th>RC_Index</th>
<th>Large_Size</th>
<th>Gov_Effect</th>
<th>Ln_TA</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>73</td>
<td>73</td>
<td>72</td>
<td>73</td>
<td>73</td>
<td>73</td>
<td>73</td>
</tr>
<tr>
<td>Mean</td>
<td>30,339.10</td>
<td>599.95</td>
<td>1.71</td>
<td>13.95</td>
<td>0.42</td>
<td>1.23</td>
<td>10.29</td>
</tr>
<tr>
<td>Std Deviation</td>
<td>42,952.36</td>
<td>683.43</td>
<td>3.38</td>
<td>3.975</td>
<td>0.50</td>
<td>0.83</td>
<td>1.58</td>
</tr>
<tr>
<td>Min</td>
<td>18</td>
<td>0</td>
<td>-6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 3 shows the results of the bivariate analysis between independent variables carried out by computing three Spearman correlations. This was designed to forestall possible multicollinearity problems.

### Table 3: Spearman correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>RC_Index</th>
<th>Gov_Effect</th>
<th>Ln_TA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correlation Coefficient</strong></td>
<td>1</td>
<td>0.104</td>
<td>0.523*</td>
</tr>
<tr>
<td><strong>Sig. (2-tailed)</strong></td>
<td>1</td>
<td>0.379</td>
<td>0.131</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>73</td>
<td>73</td>
<td>73</td>
</tr>
</tbody>
</table>

Significance level: ^p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.

The correlation between RC_Index and Ln_TA is important for both its statistical significance (p < 0.001) and Spearman coefficient (0.523). This result was not, however, considered a problem, because the subsequent multivariate analyses used another test (i.e. VIFs). Table 4 shows the findings of the first ordinary least squares regression model. HP1 was rejected, because the empirical evidence showed a positive relationship between RC and COGS (coefficient: 1,506.35; p < 0.1). The F-statistic, assessing the goodness of fit of Model 1, was below the significance level of 0.001. The R-squared was 0.3293.

### Table 4: OLS regression analysis results, Model 1

<table>
<thead>
<tr>
<th>Dependent Variable: COGS</th>
<th>Coefficient</th>
<th>HAC Std. Errors</th>
<th>t-statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_Index</td>
<td>1,506.35</td>
<td>803.87</td>
<td>1.8739</td>
<td>0.0652^</td>
</tr>
<tr>
<td>Gov_Effect</td>
<td>10,438.41</td>
<td>7,371.48</td>
<td>1.4161</td>
<td>0.1613</td>
</tr>
<tr>
<td>Ln_TA</td>
<td>13,153.33</td>
<td>3,763.69</td>
<td>3.4948</td>
<td>0.0008***</td>
</tr>
</tbody>
</table>

- R-squared: 0.3293
- F-statistic: 11.2900
- Prob (F-statistic): 0.0000***

Significance level: ^p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.

The robustness tests confirmed the reliability of the findings (Table 5), because all the VIF values were below 1.2 and therefore far from the crucial cut-off point of 10 (Gujarati, 2004). To manage possible heteroskedasticity issues, we used both the Newey–West method and the Breush–Pagan–Godfrey test. The F-statistic was above the significance level of 0.05, showing that there was no problem.

### Table 5: Robustness tests: multicollinearity (VIFs) and heteroskedasticity (Breusch–Pagan–Godfrey test), Model 1

<table>
<thead>
<tr>
<th></th>
<th>VIFs</th>
<th>Breusch–Pagan–Godfrey Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_Index</td>
<td>1.0464</td>
<td>F-statistic: 0.9234 Prob.: 0.4342</td>
</tr>
<tr>
<td>Gov_Effect</td>
<td>1.1400</td>
<td>Significance level: ^p &lt; 0.1; *p &lt; 0.05; **p &lt; 0.01; ***p &lt; 0.001</td>
</tr>
<tr>
<td>Ln_TA</td>
<td>1.1892</td>
<td></td>
</tr>
</tbody>
</table>
Model 2 shows the moderation effect exerted by firm size over the relationship between RC and COGS (Table 6). HP1a was therefore confirmed. Figure 1 shows that in medium-sized firms, RC is negatively associated with COGS (coefficient: -1,425.26; \( p < 0.05 \)). A higher degree of RC is therefore associated with lower COGS. The opposite result was seen in large firms (coefficient: 3,309.59; \( p < 0.05 \)). R-squared was equal to 0.4224 and the F-statistic was 9.8012, below the significance level of 0.001.

**Table 6: OLS regression analysis results, Model 2**

<table>
<thead>
<tr>
<th>Dependent Variable: COGS</th>
<th>Coefficient</th>
<th>HAC Std. Errors</th>
<th>t-statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_Index_No_Large_Size</td>
<td>-1,425.26</td>
<td>631.29</td>
<td>-2.2578</td>
<td>0.0272*</td>
</tr>
<tr>
<td>RC_Index_Large_Size</td>
<td>3,309.59</td>
<td>1,537.11</td>
<td>2.1531</td>
<td>0.0349*</td>
</tr>
<tr>
<td>Large_Size</td>
<td>-41,730.81</td>
<td>21,431.13</td>
<td>-1.9472</td>
<td>0.0557^</td>
</tr>
<tr>
<td>Gov_Effect</td>
<td>9,261.86</td>
<td>5,582.61</td>
<td>1.6591</td>
<td>0.1018</td>
</tr>
<tr>
<td>Ln_TA</td>
<td>8,928.51</td>
<td>2,545.82</td>
<td>3.5071</td>
<td>0.0008**</td>
</tr>
</tbody>
</table>

R-squared: 0.4224
F-statistic: 9.8012
Prob (F-statistic): 0.0000***

Significance level: ^ \( p < 0.1 \); * \( p < 0.05 \); ** \( p < 0.01 \); *** \( p < 0.001 \).

**Figure 1: The moderation effect of firm size on the relationship between RC and COGS**

Model 3 (Table 7) showed that RC does not negatively affect interest expenses (coefficient: 47.20; \( p < 0.05 \)). This therefore did not support HP2. R-squared was 0.3829 and the F-statistic was 14.2718, much lower than the significance level of 0.001.
Table 7: OLS regression analysis results, Model 3

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Coefficient</th>
<th>HAC Std. Errors</th>
<th>t-statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_Index</td>
<td>47.20</td>
<td>18.19</td>
<td>2.5945</td>
<td>0.0116*</td>
</tr>
<tr>
<td>Gov_Effect</td>
<td>−119.90</td>
<td>162.17</td>
<td>−0.7394</td>
<td>0.4622</td>
</tr>
<tr>
<td>Ln_TA</td>
<td>200.58</td>
<td>78.75</td>
<td>2.5469</td>
<td>0.0131*</td>
</tr>
</tbody>
</table>

R-squared: 0.3829  
F-statistic: 14.2718  
Prob (F-statistic): 0.0000***

Significance level: ^ p < 0.1; * p < 0.05; ** p < 0.01; *** p < 0.001.

Multicollinearity did not affect the trustworthiness of the findings, because the VIF values were far below the critical threshold of 10. The F-statistic from the Breush–Pagan–Godfrey test showed slight statistical significance (p < 0.10), but the use of the Newey–West (HAC) method allowed us to address possible heteroskedasticity problems (Table 8).

Table 8: Robustness tests: multicollinearity (VIFs) and heteroskedasticity (Breusch–Pagan–Godfrey test), Model 3

<table>
<thead>
<tr>
<th>VIFs</th>
<th>Breusch–Pagan–Godfrey Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_Index</td>
<td>1.0813</td>
</tr>
<tr>
<td>Gov_Effect</td>
<td>1.2930</td>
</tr>
<tr>
<td>Ln_TA</td>
<td>1.3700</td>
</tr>
</tbody>
</table>

Model 4 showed the moderating effect of firm size on the relationship between RC and interest expenses (Table 9). These results supported HP2a. Figure 2 shows that in medium-sized firms, RC exerts a positive influence on interest expenses by reducing them (coefficient: −11.90; p < 0.05). In large firms, however, the opposite was seen (coefficient: 86.58; p < 0.05). R-squared was 0.5211 and the F-statistic was 14.5823, with a p-value far below the significance level of 0.001.

Table 9: OLS regression analysis results, Model 4

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Coefficient</th>
<th>HAC Std. Errors</th>
<th>t-statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_Index_No_Large_Size</td>
<td>−11.90</td>
<td>5.47</td>
<td>−2.1772</td>
<td>0.0330*</td>
</tr>
<tr>
<td>RC_Index_Large_Size</td>
<td>86.58</td>
<td>32.94</td>
<td>2.6289</td>
<td>0.0106*</td>
</tr>
<tr>
<td>Large_Size</td>
<td>−936.15</td>
<td>471.39</td>
<td>−1.9860</td>
<td>0.0511^</td>
</tr>
<tr>
<td>Gov_Effect</td>
<td>−134.68</td>
<td>105.64</td>
<td>−1.2749</td>
<td>0.2067</td>
</tr>
<tr>
<td>Ln_TA</td>
<td>124.31</td>
<td>50.84</td>
<td>2.4449</td>
<td>0.0171*</td>
</tr>
</tbody>
</table>

R-squared: 0.5211  
F-statistic: 14.5823  
Prob (F-statistic): 0.0000***

Significance level: ^ p < 0.1; * p < 0.05; ** p < 0.01; *** p < 0.001;
Figure 2: The moderation effect of firm size on the relationship between RC and interest expenses

Table 10 shows the absence of any relationship between RC and EPS (coefficient: \(-0.03; p > 0.10\)). These findings do not support HP3. In Model 5, R-squared was 0.1069 and the F-statistic was 2.7144, with a p-value below the significance level of 0.10.

Table 10: OLS regression analysis results, Model 5

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Coefficient</th>
<th>HAC Std. Errors</th>
<th>t-statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_Index</td>
<td>-0.03</td>
<td>0.1489</td>
<td>-0.1851</td>
<td>0.8537</td>
</tr>
<tr>
<td>Gov_Effect</td>
<td>1.57</td>
<td>0.3692</td>
<td>4.2454</td>
<td>0.0001***</td>
</tr>
<tr>
<td>Ln_TA</td>
<td>0.46</td>
<td>0.2099</td>
<td>2.2100</td>
<td>0.0305*</td>
</tr>
</tbody>
</table>

R-squared: 0.1069
F-statistic: 2.7144
Prob (F-statistic): 0.0305*

Significance level: ^p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001.

Like before Model 3, multicollinearity was not deemed a problem, because the VIFs never even reached 2, far less the critical threshold of 10. Similarly, heteroskedasticity was adequately handled by the use of the Newey–West (HAC) method, even though the result of the Breush–Pagan–Godfrey test was not entirely satisfactory, with an F-statistic slightly below the significance level of 0.10 (Table 11).

Table 11: Robustness tests: multicollinearity (VIFs) and heteroskedasticity (Breusch–Pagan–Godfrey test), Model 5

<table>
<thead>
<tr>
<th>VIFs</th>
<th>Breusch–Pagan–Godfrey Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_Index</td>
<td>1.1833</td>
</tr>
<tr>
<td>Gov_Effect</td>
<td>1.7354</td>
</tr>
<tr>
<td>Ln_TA</td>
<td>1.6651</td>
</tr>
</tbody>
</table>

F-statistic: 2.2076
Prob.: 0.0951^****
Model 6 shows the moderation effect of firm size on the relationship between RC and EPS. The findings are consistent with HP3a. In medium-sized firms only, RC can positively condition EPS (coefficient: 0.18; \( p < 0.05 \)). R-squared was 0.1574 and the F-statistic was 2.4649, with a p-value beneath the significance level of 0.05 (Table 12).

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Coefficient</th>
<th>HAC Std. Errors</th>
<th>t-statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RC_Index_No_Large_Size</td>
<td>0.18</td>
<td>0.09</td>
<td>2.0127</td>
<td>0.0482*</td>
</tr>
<tr>
<td>RC_Index_Large_Size</td>
<td>−0.24</td>
<td>0.17</td>
<td>−1.4332</td>
<td>0.1565</td>
</tr>
<tr>
<td>Large_Size</td>
<td>5.60</td>
<td>2.44</td>
<td>2.2956</td>
<td>0.0249*</td>
</tr>
<tr>
<td>Gov_Effect</td>
<td>1.41</td>
<td>0.34</td>
<td>4.1429</td>
<td>0.0001**</td>
</tr>
<tr>
<td>Ln_TA</td>
<td>0.50</td>
<td>0.30</td>
<td>1.6739</td>
<td>0.0989^</td>
</tr>
</tbody>
</table>

R-squared: 0.1574
F-statistic: 2.4649
Prob (F-statistic): 0.0415*

Significance level: ^ \( p < 0.1 \); * \( p < 0.05 \); ** \( p < 0.01 \); *** \( p < 0.001 \).

Lastly, Figure 3 shows that in medium-sized firms, increasing RC is associated with improved EPS.

6. Discussions and implications

The results show that RC was not negatively associated with COGS (HP1). This was inconsistent with previous managerial and organizational studies (Handfield and Bechtel, 2002; Zhao et al., 2008). This may be because of the multidimensionality of RC (De Clercq and Sapienza, 2006). Kamukama et al. (2011) commented on the multiple moderating variables that influenced the relationship between RC and firm–market interactions. Cohen and Kaimenakis (2007) noted that RC is a general
conceptual umbrella under which several variables can be used to explain firm–market environment relationships. This suggests that from both the theoretical and practical points of view, it is important to develop technical instruments and conceptual frameworks able to investigate in depth how RC can indirectly affect COGS. It is particularly important to examine and measure the intensity and value of relationships between firms and suppliers, to clarify the relational conditions under which a company could increase its market power and enhance its competitiveness.

The empirical evidence also showed that firm size acts as a moderator on the relationship between RC and COGS (HP1a). This result confirms previous evidence about the role of firm size as a moderator in the relationship between firms and their market environment (Pelham and Wilson, 1995; Ruf et al., 2001; Scuotto et al., 2017). This shows that firm size can influence the market perspective from both technical and relational points of view (Coviello et al., 2000). Halebian et al. (2012) also found that firm size influenced the market’s view of firms, with several consequences for the relationships between firms and their markets. Similarly, Cadogan et al. (2002) found that firm size acts as an antecedent in defining relationship conditions under which firms interact with their market environment. They showed that bigger firms have more opportunities to obtain favorable market conditions, as a result of their pervasive activities on the market. Our findings suggest the need to evaluate and manage the moderator role of firm size in the relationship between RC and COGS. From a theoretical perspective, it is necessary to define instruments to quantify how firm size moderates the relationship. From a practical point of view, it is important to develop communication and marketing tools to support firms in increasing the competitive advantages related to RC through the enhancement of the role of firm size.

The results also provide evidence about the lack of negative relationship between RC and interest expenses (HP2). This result is not perfectly consistent with previous contributions rooted in managerial and marketing studies (Baker, 1990; Chhibber, 1999). The lack of relationship can, however, be explained as a possible consequence of a lack of effective approaches to managing the implications of RC (Vafaei et al., 2001). Lee and Cavusgil (2006) noted that RC can affect firms’ influence on market conditions only where there are effective approaches to planning, managing and verifying the relationality. Mitchell et al. (1997) and Filieri and Alguezau (2014) also demonstrated that high potential relationality cannot be transformed into effective advantages and opportunities if there is no shared awareness of the key role of relationship management. Cousins et al. (2006) noted the increasing loss of value for firms that do not pay attention both to the multiple dimensions of RC, and to the definition of adequate instruments for relationship management. This finding shows that it is important to enlarge the perspective in this study and assess the relational dimensions that could affect firms’ relationships with financial actors, to identify possible elements able to influence perceptions and include them in the conceptual framework rooted in RC. This finding also, however, underlines the need to increase the efficiency of communication and relational instruments between firms and financial actors, to increase firms’ ability to understand and manage their relationships with the market environment and therefore their market power.

The findings showed that firm size acts as a moderator in the relationship between RC and interest expenses (HP2a). This result is in line with previous contributions on the key role of firm size in the relationship between firms and markets (Brammer and Millington, 2006; Lee 2017). Firm size can be considered as a filter for stakeholders’ perceptions with respect to firm stability and image (Halebian et al., 2012). Hill and Jones (1992) suggested that firm size acts as a warranty for those stakeholders involved in relationships with the firm. Amos et al. (2008) noted the advantages that stakeholders perceive in a relationship with a large firm, and how they change their behaviors to ensure a long-
term relationship. This finding is relevant from both theoretical and practical perspectives, because it stresses the need for in-depth cognitive and procedural paths to explain how firm size influences perceptions and behaviors. Such result also focuses the attention of practitioners on the development of instruments meant to enhance the positive effect of firm size on the relationship between firm and its stakeholders (Del Giudice et al., 2017).

Finally, the research showed that there is no positive relationship between RC and EPS (HP3), but that firm size acts as a moderator (HP3a). These results show how hard it is to develop a holistic approach to RC, as a consequence of the multiple ways through which it affects firms’ processes and performances (Chen et al., 2005). The empirical study showed that RC does not directly affect EPS, opening a debate on possible indirect relationships between those variables (Ferraro and Veltri, 2011). These findings however emphasise the role of firm size as a moderating variable capable of affecting on the way in which RC can influence firm performances (Hill and Jones, 1992). According to Chen et al. (2009), RC can be a considerable source of firm competitive advantage but its more relevant limit is related to the ways in which its influence on firm performance can be quantified. Both these findings enforce theoretical and practical implications and provide a reminder for both researchers and practitioners about the need to extend the consolidated framework to cover the role of RC in managerial fields. It is particularly important to develop tools to enhance the potentially positive role firm size can play in defining strong firm competitive advantage deriving from relationships with stakeholders and the environment.

7. Theoretical and managerial implications

As underlined in previous sections the domains of firm size, RC, and firm performance are challenging topics on which several theoretical contributions have been provided (Kale et al., 2000; Morgan et al., 2009; Orser et al., 2000) with few empirical evidence focused on their relationships. To bridge this gap, the paper underlines the multiple dimensions through which firm size influence corporate strategy and performance. Accordingly, the findings call the attention on the need for developing technical instruments and conceptual frameworks able to extend both theoretical and managerial perspectives over the influence of firm size and RC on firm performance. In such a vein, the paper emphasizes the need for developing tools for evaluating and measuring the intensity and value of relationships between firms and suppliers as a strategic driver able to influence firms’ performance (Bosse et al., 2016; Mitrega et al., 2017; Skarmea et al., 2016). As implication of the research, practitioners are invited to define paths and instruments for quantifying the influence of firm size on firms’ performance. As a matter of fact, clear information about the influence of firm size on the above analyzed variables offer to firms the opportunity for better quantifying investments and budget in a competitive strategy.

The main implication of the present study is then related to the evidence of strong direct and indirect influences between firm size, relational capital, and firm performance (Inkinen, 2015; Whipple et al., 2015; Sardo et al., 2018). This evidence can be considered a starting point for enforcing theoretical and managerial attention on: 1) the definition of performance indexes able to evaluate the influence of firm size on corporate strategies; 2) the building of evaluation processes for quantifying investments and budgets in marketing and communication actives as a consequence of their effect on firms’ performance through the mediator role of firm size; and 3) the formulation of
corporate strategies and behaviors able to enhance the advantages related to the influence of firms’ size on market perceptions.

As briefly underlined, the mediator role of firm size emerges as an intriguing topic for the multiple dimensions involved in both strategical and operational firms’ processes. Accordingly, the implications of the research are related to the strategic path, in terms of support given in the definition of better approaches for enhancing investments meant to improve firm’s competitive position (Porter and Kramer, 2019; Rossi et al., 2018). Moreover, it is also interesting to consider the operative domain of the foregoing strategic path, in terms of definition of the instruments able to provide a valuable support in quantifying effectiveness and value of firm’s interaction with the market (Rust et al., 2004; Palmatier et al., 2006).

8. Conclusion, limitations, and future directions for research

Recently several debates, among scholars and practitioners, increased the attention on the relationship between RC and firm performance (Peng et al., 2007; Martin de Castro and López Sáez, 2008; Léger, 2010). The influence of RC on firm performance was investigated from different points of view (Chen et al., 2005; Jardon and Susana Martos, 2012). Unfortunately, despite the growing consideration for this topic, there is still room for more research (Sarkar et al., 2001; Bollen et al., 2005).

This paper intended to fuel the interest for the foregoing relationship by using the interpretative lens of the RDT, in the light of the influence exerted by external resources on firms’ decisions, strategies, actions, and performance (Scott, 1987; Paulraj and Chen, 2007). Shifting the attention from an internal to an external perspective, the relationship between firm and its market environments has been discussed and a set of research hypotheses has been posited.

The empirical analysis showed no evidence of a direct relationship between these variables, but the study has further advanced the current body of knowledge on the role of firm size as a moderator variable. In more detail, it is worth emphasising the moderator role of firm size in the relationships between RC and COGS, interest expenses, and EPS. The findings feed the ongoing debate with regard to the way in which RC influences firm performance by adding new evidence on the multiple dimensions that should be considered, in terms of antecedents, consequences, and implications of RC in managerial studies (Lawson et al., 2008).

We therefore believe that our study can help to develop an exhaustive framework to explain how RC is able to influence firm performance, albeit some limitations. Indeed, the analysis is centered on a sample of European listed firms, which are usually associated with multiple market relationships. The next step of the research therefore could concern the possible validation of our findings with respect to a sample of smaller firms. At last, other studies could verify whether the moderator role of firm size in the relationship between RC and firm performance is also affected by different dimensions, such as the industry where the firms operate.

References


**Title:** The moderating effect of firm size on relational capital and firm performance: evidence from Europe

Dear Editor and reviewers,

We would really thank you for your positive, useful, and constructive comments. We have tried to follow your suggestions, in order to improve the quality of our paper. With the aim to support an easily identification of proposed changes, we have underlined them in yellow in the full text and we have summarized them in the following table.

<table>
<thead>
<tr>
<th>Reviewers' comments</th>
<th>Authors' replies</th>
</tr>
</thead>
<tbody>
<tr>
<td>The level of originality is medium / high, but it must be argued better with the use of the bibliography.</td>
<td>Thank you for this positive comment. We have enforced the reflections herein better clarifying the link to previous managerial contributions.</td>
</tr>
<tr>
<td>The cited bibliography is thin and not very recent. Certainly needs to be expanded, especially with specific lines often carried forward by a few journals (for example, in the Journal of Knowledge Management there are at least 10 contributions consistent with the paper subject to submission)</td>
<td>Thank you for this comment. We have enforced the theoretical background on which the paper is built.</td>
</tr>
<tr>
<td>The methodology is interesting and well built</td>
<td>Thank you for this positive comment.</td>
</tr>
<tr>
<td>The “5 Findings” section is too dense due to the simultaneous presence of tables and figures; probably the latter should be eliminated.</td>
<td>Thank you for this suggestion. Nonetheless, we believe that all the figures can support the readability of tables n. 6, 9 and 12. Moreover, the figures provide full evidence of the moderator role exerted by the firm size.</td>
</tr>
<tr>
<td>The implications are well argued and consistent with the evidence and conclusions of the paper</td>
<td>Thank you for this positive comment.</td>
</tr>
<tr>
<td>In the sentence structure there is a good abundance of punctuation. A rereading would be desirable before proceeding with the submission.</td>
<td>Thank you for your suggestion. To this end, we reread the manuscript with the aim to improve its readability.</td>
</tr>
<tr>
<td>Thank you for the opportunity to review this paper. In general, the paper is well structured, developed and written. The development is rigorous both theoretically and empirically. For these reasons I believe that the paper may be suitable for publication. There are only a few changes to be made before publication.</td>
<td>Thank you for these positive comments.</td>
</tr>
</tbody>
</table>
The rationale of the study should be emphasized more especially in the introduction. In this respect, I think it is necessary to better underline and explain the research gap and the contribution of the study. I think it is necessary to emphasize what we do not know about this topic and explain how your study fits into that context.

Thank you for this comment. We have better clarified the research aim and the gap that the paper aims at bridging.

| Empirical analysis is the best part of the paper both from the point of view of rigour and presentation. These results allow to provide relevant theoretical implications. However, the practical implications are somewhat lacking. They should be extended and reinforced, perhaps in a specific section. |
| Thank you for this suggestion. We have added a new section for better explaining both theoretical and practical implications. |

| I see that in the theoretical background, to some extent, the research gap is discussed. Perhaps it would be appropriate to merge the introduction and theoretical background sections. What do you think? |
| Thank you for this comment. We have preferred to clarify the research gap also in the introduction and to maintain the theoretical background in a different section for ensuring the flow of the paper. |

| The literature is well reviewed and discussed. The hypotheses are supported. I just recommend to includes some recent references. I provide you some suggestion regarding paper that can fit your theoretical background: |
| Thank you for this positive comment. We have enforced the reflections herein better clarifying the link to previous managerial contributions. |

Thank you

The Authors