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External managerial networks, strategic flexibility and organisational learning: A comparative study among non-QM, ISO and TQM firms

Virginia Fernández Pérez* and Leopoldo Gutiérrez Gutiérrez

Department of Business Administration, University of Granada, Cartuja s/n 18071, Granada, Spain

This paper studies the effect of external managerial social networks on strategic flexibility and organisational learning, considering three groups of firms (non-quality management (QM) firms, ISO firms and total quality management (TQM) firms). At present, there are a wide variety of alternatives for managing quality in organisations, such as ISO standards and the European Foundation for Quality Management model. Thus, different alternatives will influence the external social networks differently, affecting strategic flexibility and organisational learning, as the literature on external social networks suggests that they can affect strategic flexibility and organisational learning positively. Through a comparative analysis of variance and stepwise regressions, we observed that external social networks affect strategic flexibility and organisational learning positively, primarily based on the greater size of the networks. On the other hand, we found that depending on the kind of QM initiative implemented in the organisation, other effects vary. For example, in organisations without QM, the range of external social networks influences strategic flexibility negatively, whereas in organisations with ISO standards, this negative effect disappears. In organisations with TQM, we found the positive effect of both size and strength of relations on the networks. For organisational learning, a negative relationship was found between organisational capability and network range for the non-QM firm group. These relationships turned out to be positive for the TQM firm group. This paper includes these and other conclusions, as well as future lines of research.

Keywords: external managerial networks; strategic flexibility; organisational learning; ISO standards; TQM

1. Introduction

The importance of quality management (QM) in current competitive environments has been proved already (Kaynak, 2003; Nair, 2006; Prajogo & Sohal, 2006). As a result of its positive effects on organisational performance, QM implementation has been extended all over the world. Thus, the great evolution that QM has undergone in the last few years has led to the current existence of different options proposed for implementing the practices that this philosophy proposes (García-Bernal, Gargalo-Castel, Pastor-Agustín, & Ramírez, 2004). In the quality movement, there are numerous methods and tools. They vary from those oriented towards the customer or process to those oriented towards the human dimension or towards the system dimension and finally those that involve a change of culture and learning (Gutiérrez Gutiérrez, Tamayo-Torres, & Barrales Molina, 2010; Handfield, Ghosh, & Fawcett, 1998). Familiar examples of these are Quality Control, the American Malcolm Baldrige model, the European Foundation for

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Quality Management (EFQM) Excellence Model, ISO standards and the most recent Six Sigma methodology. As a consequence, managers face a wide range of possibilities for implementing QM in their organisations. The goal of this paper is to offer organisations a criterion of differentiation among three different alternatives (non-QM, ISO standards and total quality management (TQM)\(^1\)), based on the behaviour of social networks, strategic flexibility and organisational learning.

In spite of the importance of QM, McAdam, Leonard, Henderson, and Hazlett (2008) and Mellat-Parast and Digman (2007) argued that there is a need to look at QM from the strategic view of the firm, and we argue the need from the network perspective. There is a serious lack of studies that analyse the relation between QM practices and external social networks. Thus, ‘there is no evidence on how the principles of quality management can be implemented within a network of firms’ (Mellat-Parast & Digman, 2007, p. 804). This study will contribute to the QM literature by testing the relationship between the implementation of QM initiatives and external social network effects.

Another particularly prominent gap relates to the role of CEOs’ social networks in fostering strategic flexibility and organisational learning. This gap is especially notable because the strategic choice (Child, 1972) and upper echelon (Hambrick & Mason, 1984) perspectives have highlighted the importance of top managers, especially CEOs, in driving strategic changes in firms. In this context, CEOs’ social networks function as conduits for the transmission of information, resources and opportunities that could be leveraged to firms’ capabilities (Liebeskind, Oliver, Zucker, & Brewer, 1996), such as strategic flexibility and organisational learning.

In summary, the goal of this paper is to study how the dimensions of external social networks (size, range and strength) affect strategic flexibility and organisational learning in firms and whether there are significant differences in these effects depending on whether the firms have implemented one QM initiative or the other (non-QM, ISO standards and TQM). The paper is structured as follows. After introduction, we present a literature review that covers the relationship among external social networks, strategic flexibility and organisational learning and the role of different QM initiatives in the previous relationship. After the literature review, we describe the methodology and the analysis performed. Subsequently, we discuss the results obtained and present the main conclusions, limitations and recommended directions for future research.

2. Theoretical background

2.1. External social networks, strategic flexibility and organisational learning

2.1.1. External social networks

The external social networks of CEOs, defined as the systems of relationships that CEOs have with other actors outside their organisation (Collins & Clark, 2003), are widely recognised as crucial determinants of their access to information and knowledge (Gulati, Nohria, & Zaheer, 2000). Networking relationships influence a CEO’s behaviour and this influence could be extended to his/her organisation (a micro–macro link) (e.g. Gulati, 1995).

Three important dimensions of the structure of social networks are the size and range of the network and the strength of the ties (Collins & Clark, 2003; Cross & Cummings, 2004). Network size is important because each connection that a person has represents an information channel. Network range represents the diversity of contacts in social
networks. CEOs who use large and diverse networks have greater access to competitive ideas, information, knowledge and opportunities and better results (Dussauge, Garrette, & Mitchell, 2000; Obstfeld, 2005). On the other hand, strong ties facilitate the exchange of detailed information (Krackhardt, 1992; Uzzi, 1996) due to the fact that these networks are characterised by frequent interaction, a common history and mutual trust (Anand & Khanna, 2000). However, such networks require more maintenance, which implies that the volume of information will be smaller and probably redundant.

2.1.2. External social networks and strategic flexibility

Strategic flexibility reflects a firm’s ability to respond continuously to unanticipated changes and to adjust to unexpected consequences of predictable changes (Lei, Hitt, & Goldhar, 1996). Most of the studies of strategic flexibility have focused on technology (e.g. Sánchez, 1995) and resources (e.g. Young-Ybarra & Wiersema, 1999) as antecedents. These studies have ignored the influence of CEOs on strategic flexibility (Nadkarni & Narayanan, 2007, is an exception). In this paper, we study the social part of this gap in depth, that is, the influence of CEOs’ networks on strategic flexibility. Social networks enable CEOs to acquire resources, valuable information and knowledge that they can use to mitigate uncertainties and to make the best strategic decisions to adapt the firm to the environment.

The size and range of the network and the strength of ties may have different implications for strategic flexibility. The network literature suggests that networks that are greater in size and range will foster strategic flexibility through broad scanning, speedy diagnosis and simultaneous consideration of strategic alternatives, reducing the likelihood of cognitive inertia (Hodgkinson, 1997) and status quo behaviour (Miller & Chen, 1996) that inhibit strategic flexibility. These networks generate a greater variety of perspectives and stimulate criticism since they have more access to new and diverse information and knowledge (Rodan & Galunic, 2004) and advice for problem-solving (Gibbons, 2004; Sparrowe & Liden, 2005), reducing the gap between real and provided adaptations to the environment.

The quality, trust and exclusivity concerning the information and knowledge derived from strong ties make them valuable and positive in helping the organisation to respond to certain contexts (Dyer & Nobeoka, 2000). For example, networking relationships between CEOs and their key customers and suppliers facilitate the creation, acquisition and exploitation of knowledge (Dyer & Nobeoka, 2000; Yli-Renko, Autio, & Sapienza, 2001). Ties with competitors may lead to collaboration and implicitly make them work together to confront competitive uncertainties (Park & Lou, 2001). This leads us to propose the following hypotheses:

H1a: External social network size of CEOs will be positively related to strategic flexibility.
H2a: External social network range of CEOs will be positively related to strategic flexibility.
H3a: External social network strength of CEOs will be positively related to strategic flexibility.

2.1.3. External social networks and organisational learning

Organisational learning is a process of knowledge acquisition, assimilation and exploitation (Cohen & Levinthal, 1990). Networking relationships create opportunities for knowledge acquisition and exploitation (Lane & Lubatkin, 1998; Ma, Huang, & Shenkar, 2011). Sharing extant knowledge can also jointly create other specific knowledge by
decomposing and recombining different complementary knowledge. Nevertheless, several gaps remain in scholars’ understanding of how firms embrace organisational learning from social capital perspectives. In this study, we focus on the role of CEOs’ social networks in fostering organisational learning.

Large and diverse networks increase the level of knowledge bases available to the CEOs, and this is expected to have a positive effect on new knowledge creation. Luo (2001) noted that local Chinese managers’ networking ties with foreign managers from different cultures and with diverse experience backgrounds and management skills increase their willingness to develop new knowledge. On the other hand, strong ties facilitate sharing of existing knowledge and the creation of new knowledge through regular patterns of interaction and exchange of detailed information (Uzzi, 1996), which usually are required for a learning process (Powell, Koput, & Smith-Doerr, 1996). Dyer and Nobeoka (2000) found that learning teams in Toyota supplier networks contribute to members’ joint new practice adoption by increasing their confidence and capabilities to move forward together in the new direction. In this respect, social networks might be expected to influence a firm’s range of organisational learning. Thus, we propose the following hypotheses:

\[ H1b: \text{External social network size of CEOs will be positively related to organisational learning.} \]

\[ H2b: \text{External social network range of CEOs will be positively related to organisational learning.} \]

\[ H3b: \text{External social network strength of CEOs will be positively related to organisational learning.} \]

2.2. **QM initiatives and external social networks**

Few studies in the literature have analysed the relationship between QM and external social networks. However, we found some studies that have studied the effect of QM practices on particular network cases. The contacts that have been analysed more are the supply chain (Flynn & Flynn, 2005; Lin, Chow, Madu, Kuei, & Yu, 2005) and strategic alliances (Mellat-Parast & Digman, 2007, 2008). These are two examples of positive effects of QM practices on external contacts with providers and other firms. In this context, the same result would be observed for other contacts, such as those with customers, competitors or financial institutions. Thus, practices such as orientation towards the customer, cultural change or benchmarking activities will collaborate in the development of these networks and specifically in the accessing of information. As a consequence, the positive effect of QM practices on external social networks seems to be clear.

On the other hand, as we have affirmed above, at present, managers face a wide range of alternatives for QM implementation (Quality Control, the EFQM model, ISO standards, etc.). All these initiatives are composed by different QM structural elements. The literature has established a direct relationship among the elements implemented, the form and intensity with which they have been implemented, and the organisation’s performance (Kaynak, 2003; Nair, 2006; Waldman, 1994). However, the degree to which these practices develop is not the same in all the QM initiatives (Gutiérrez Gutiérrez et al., 2010). Currently, for example, the most widely used QM initiative is the implementation of ISO standards. The literature on QM shows that ISO standards lead to higher levels of QM practice implementation than basic QM (Karapetrovic, Casadesús, & Heras, 2010; Kuo, Chang, Hung, & Lin, 2009; Vouzas & Gotzamani, 2005). But these standards also represent a significant initial step for manufacturing organisations on the way to TQM, since they involve a lower initial degree of commitment to their principles.
studies rank TQM above ISO standards (Bendell, 2000), although others argue that the new version of ISO standards has come quite close to TQM (Boulter & Bendell, 2002; Gotzamani, 2010; Vouzas & Gotzamani, 2005).

These differences between ISO standards and TQM, and obviously between both QM and non-QM implementation options, lead us to establish that there are different alternatives for QM, whose elements’ development degrees differ among them. Thus, the development of the QM elements depends on the QM initiative in use. Elements such as leadership, product/service design, supplier management and process management, as we have observed earlier, have a positive influence on external social networks. However, if the elements’ development degrees differ among QM initiatives, their influence on external social networks will probably be different. We thus propose the following hypotheses:

\[ H4a: \] The effect of the dimensions of external social networks of managers (size, range and strength) on organisational strategic flexibility differs among non-QM organisations, organisations with ISO standards and TQM organisations.

\[ H4b: \] The effect of the dimensions of external social networks of managers (size, range and strength) on organisational learning differs among non-QM organisations, organisations with ISO standards and TQM organisations.

3. Research method

3.1. Data sample

The context chosen to test these hypotheses is the geographical region of Spain. The literature recommends selecting a sample of firms located in a relatively homogeneous geographical, cultural, legal and political space (Alder, 1983).

We conducted systematic random sampling of 900 companies from a mailing list, Amadeus database and Dun and Bradstreet, Spain. The search criterion was medium-sized and large manufacturing and services firms, as defined by the guidelines of the Fourth European Directive (2009). Because our research focuses on strategic actions – that is, on decisions that depend on the CEOs of the companies – we chose CEOs as the key informants. The procedure for data collection consisted of sending a letter by mail (754 questionnaires) or email (146 questionnaires) to different Spanish firms’ CEOs. The letter explained the reasons for and objectives of the research. Finally, questionnaires that were answered could be sent back by mail or email.

The questionnaires were developed after an extensive review of the literature related to the main constructs observed. Once designed, the questionnaires were pretested by three Spanish managers, which enabled the clarification of possible ambiguities, correction of errors and solution of formatting problems. We received 226 questionnaires, of which 203 were valid. The response rate was 22.6%. This response rate by economic sector was 24.3% manufacturing firms – 94 received – and 21.2% services firms – 109 received.

Of the total of 203 firms, 5.9% reported annual sales of 7 million euros or less, and 27.6% of the firms had annual sales between 7 and 40 million of euros. The firms that had annual sales of more than 40 million of euros comprised about 66.5%. As to the number of employees in each of the firms surveyed, 9.8% of the firms had less than 50 employees, 29.6% from 51 to 250 workers and 60.6% over 250 workers. According to the guidelines of the Fourth European Directive (2009), companies were categorised in the group in which at least two of the three criteria of the Directive had been achieved. The results showed that 43.3% were medium-sized companies and 56.7% were large...
companies. Using the same database, we checked for non-response bias. For annual sales and number of employees variables, the results demonstrated that all $t$-statistics were non-significant at the level of 0.05 (the $p$-values for these comparisons ranged from 0.25 to 0.55).

### 3.2. Measurement and tests for reliability and validity

#### 3.2.1. External social networks of managers

External social networks of managers were measured by observing the size, range and strength of the links that they maintain with their contacts (Collins & Clark, 2003) in seven categories: board directors of the same industry, board directors of other industries, suppliers, clients, financial institutions, competitors and other companies’ partners. The size of the network refers to the total number of the director’s contacts that give him/her relevant information. We requested that the directors give the rough rate for each category. To measure this rate, we asked the directors to identify the number of their relevant contacts for each of the seven external categories (Collins & Clark, 2003; Hansen, 1995), using a Likert-type scale of 7 points where 1 indicates ‘none’, 2 ‘few (1–3)’ and 7 ‘many (>25)’ to respond to the following question: ‘On average, how many people are important sources of information regarding important business or industry trends and issues?’ (Cronbach’s $\alpha = 0.841$). The range of the network represented the diversity of the respondent’s contacts. This was measured as the number of different categories with which the manager has contact (Powell & Brantley, 1992). Tie strength was operationalised as an index measuring the frequency of communication or interaction and emotional intensity or closeness of the relationship (Hansen, 1999; Reagans & McEvily, 2003). The frequency of the relationship was provided through the responses to the following question: ‘On average, how often do you communicate with the people in each category?’ Emotional intensity was measured through the response to the following question: ‘On average, how would you characterise your relationship to each category?’ For these cases, we provided a seven-point Likert scale to which the CEO’s could respond. In the case of frequency, 1 indicated ‘very often’ and 7 ‘very infrequently’. In the case of emotional intensity, 1 indicated ‘distant or very far’ and 7 ‘very close’ (reverse score). Strength was measured jointly as a linear combination of the standardised point values of the two components (Collins and Clark, 2003; Granovetter, 1973) (Cronbach’s $\alpha = 0.71$).

#### 3.2.2. Strategic flexibility

An adaptation of a scale developed by Verdú-Jover, Lloréns-Montes, and García-Morales (2004) was used, which is a synthesis of the contributions of Volberda (1996, 1998), since the perspectives of the studies were similar. The managers had to indicate their level of agreement or disagreement with the statements, using a seven-point Likert-type scale (Cronbach’s $\alpha = 0.865$).

#### 3.2.3. Organisational learning

Various studies have measured organisational learning in organisations (e.g. Edmondson, 1999; Lähteenvuo, Toivonen, & Mattila, 2001). We selected the first two items from the scale of Kale, Singh, and Perlmutter (2000) and added two items based on that of Edmondson (1999). We developed a confirmatory factor analysis to validate our scale and showed that the four-item scale was unidimensional and had high reliability ($\alpha = 0.919$).
3.2.3.1. Classification variable: implementation of QM initiatives. To identify the implementation of QM initiatives, the questionnaires included a list of the different alternatives (non-QM, ISO standards and TQM). The firms could choose the initiatives that they had underway.

3.2.3.2. Control variable: incomes. Large companies have a greater number of advantages due to their resources (Barney, 1991). Therefore, we included annual sales incomes as a control variable. Different income levels affect the information required from external networks to bring about flexible behaviours and QM implementation.

4. Data analysis

4.1. Sample distribution

We began the investigation by dividing the total sample obtained (n = 203) into three groups. For the first group, we selected firms that did not choose any of the QM initiatives included in the questionnaires. This group (Group 0, non-QM firms) was composed of 73 organisations. The second group included organisations that had implemented only ISO standards. The second group (Group 1, ISO firms) consisted of 67 organisations. Finally, in the third group, we included those firms that had chosen the TQM initiative or the EFQM model, having or not having the ISO standards implemented. This group (Group 2, TQM firms) was composed of 63 organisations. Table 1 presents group distribution, means and standard deviations for each observed variable. For all the four variables observed, highest mean values were associated with the TQM firm group, followed by the non-QM firm group and finally by the ISO firm group.

4.2. ANOVA

Once the sample was distributed into the three groups described, using the statistical program SPSS 15.0, we performed an analysis of variance (ANOVA) of the means of the three groups relative to all the observed variables ‘size’, ‘range’ and ‘strength’ of external social networks, strategic flexibility and organisational learning. This test enabled us to

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size (non-QM firms)</td>
<td>73</td>
<td>3.93</td>
<td>1.13</td>
</tr>
<tr>
<td>Size (ISO firms)</td>
<td>67</td>
<td>3.80</td>
<td>1.01</td>
</tr>
<tr>
<td>Size (TQM firms)</td>
<td>63</td>
<td>4.71</td>
<td>0.85</td>
</tr>
<tr>
<td>Strength (non-QM firms)</td>
<td>73</td>
<td>3.89</td>
<td>0.79</td>
</tr>
<tr>
<td>Strength (ISO firms)</td>
<td>67</td>
<td>3.73</td>
<td>0.77</td>
</tr>
<tr>
<td>Strength (TQM firms)</td>
<td>63</td>
<td>4.38</td>
<td>0.67</td>
</tr>
<tr>
<td>Range (non-QM firms)</td>
<td>73</td>
<td>0.85</td>
<td>0.18</td>
</tr>
<tr>
<td>Range (ISO firms)</td>
<td>67</td>
<td>0.80</td>
<td>0.21</td>
</tr>
<tr>
<td>Range (TQM firms)</td>
<td>63</td>
<td>0.92</td>
<td>0.10</td>
</tr>
<tr>
<td>Strategic flexibility (non-QM firms)</td>
<td>73</td>
<td>4.21</td>
<td>1.10</td>
</tr>
<tr>
<td>Strategic flexibility (ISO firms)</td>
<td>67</td>
<td>4.12</td>
<td>1.00</td>
</tr>
<tr>
<td>Strategic flexibility (TQM firms)</td>
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<td>5.01</td>
<td>0.92</td>
</tr>
<tr>
<td>Organisational learning (non-QM firms)</td>
<td>73</td>
<td>5.24</td>
<td>1.18</td>
</tr>
<tr>
<td>Organisational learning (ISO firms)</td>
<td>67</td>
<td>5.47</td>
<td>0.98</td>
</tr>
<tr>
<td>Organisational learning (TQM firms)</td>
<td>63</td>
<td>5.89</td>
<td>0.68</td>
</tr>
</tbody>
</table>
determine if the observed variables generate significant differences among the three groups. The normality of the dependent variables and homoscedasticity assumptions were confirmed. The results of the comparisons of means are given in Table 2. All the variables, size ($F = 7.822; p = 0.001$), range ($F = 6.793; p = 0.001$), strength ($F = 6.931; p = 0.001$), strategic flexibility ($F = 15.025; p = 0.000$) and organisational learning ($F = 7.526; p = 0.001$), generated significant differences between the groups.

### 4.3. Regression analysis

In order to compare $H1$, $H2$ and $H3$, we studied the relationships among them. For this purpose, we performed a stepwise regression analysis for each of the groups. Before performing the analysis, we assessed the assumptions of multiple regression analysis. Thus, linearity, homoscedasticity, normality and multicollinearity assumptions were observed. The results showed that all these assumptions could be confirmed.

Tables 3 and 4 present the results of the regression analysis for the independent variables size, strength and range and the dependent variables strategic flexibility and organisational learning for each of the groups analysed. Independent variable ‘income’ was used as a control variable. There was no significant difference between the groups. Therefore, income level was not the determining factor for flexibility or learning level, independently of the QM initiative implemented. As can be seen from Table 3, the variable ‘size of network’ was included as a significant variable in the three regressions ($\beta = 0.825$, $\beta = 0.366$ and $\beta = 0.437$, $p < 0.01$, for non-QM firm group, ISO firm group and TQM firm group, respectively). Thus, $H1a$ had strong support. However, there were differences in the other variables. Thus, in addition to size, for the non-QM firm group, the range exercised a negative and significant influence on strategic flexibility ($\beta = -2.171; p < 0.01$). If we study the ISO and TQM firm groups, this significant influence does not occur. $H2a$ was rejected. Finally, the TQM firm group showed a positive and significant effect of strength on strategic flexibility ($\beta = 0.395; p < 0.05$). $H3a$ was confirmed only for the TQM firm group. We found that external social networks influenced strategic flexibility positively through their dimensions, except in the first case, where the range had a negative influence. On the other hand, there were differences in the effects of the variables ‘size’, ‘strength’ and ‘range’ on strategic flexibility, depending on the QM initiative implemented in the organisation. Based on this result, we can accept $H4a$ (Figure 1).

From Table 4, it can be observed that the variable ‘size of network’ had a significant relationship with the dependent variable ‘organisational learning’ for the non-QM and ISO firm groups. Network size for the TQM firm group was not significantly related to organisational learning. Thus, $H1b$ was partially supported. Network range had a positive relationship with organisational learning only for the TQM firm group. For the ISO firm group, there was no significant relationship, and for the non-QM firm group, there was a negative relationship between network range and organisational learning. As a

<table>
<thead>
<tr>
<th>Variable</th>
<th>$F$</th>
<th>$p$-Value</th>
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<tbody>
<tr>
<td>Size</td>
<td>7.822</td>
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</tr>
<tr>
<td>Strength</td>
<td>6.793</td>
<td>0.001</td>
</tr>
<tr>
<td>Range</td>
<td>6.931</td>
<td>0.001</td>
</tr>
<tr>
<td>Strategic flexibility</td>
<td>15.025</td>
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</tr>
<tr>
<td>Organisational learning</td>
<td>7.526</td>
<td>0.001</td>
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Table 3. The effect of external social networks on strategic flexibility in non-QM, ISO and TQM firms.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Non-QM firms</th>
<th>ISO firms</th>
<th>TQM firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strategic flexibility model</td>
<td>Strategic flexibility model</td>
<td>Strategic flexibility model</td>
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<tr>
<td></td>
<td>Coefficient</td>
<td>t</td>
<td>p-Value</td>
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<tr>
<td>Constant</td>
<td>3.755</td>
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</tr>
<tr>
<td>Incomes</td>
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<td>Size</td>
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<tr>
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<td>-2.882</td>
<td>0.005</td>
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<td>$R^2$</td>
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<tr>
<td>$F$</td>
<td>26.294</td>
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Table 4. The effect of external social networks on organisational learning in non-QM, ISO and TQM firms.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Non-QM firms</th>
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<th>TQM firms</th>
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<tr>
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</tbody>
</table>
consequence, $H2b$ was confirmed only for the TQM firm group. Network strength did not show any significant relationship with organisational learning for any of the groups. Thus, $H3b$ was rejected. Finally, there were significant differences in the effects of the variables ‘size’ and ‘range’ on organisational learning, depending on the observed group. These differences were not observed for the ‘strength’ variable. Thus, $H4b$ was partially supported (Figure 2).

5. Conclusions and future research

5.1. Conclusions

This study sought to analyse the influence of size and range of network and strength of ties on two capabilities highly dependent on knowledge management: strategic flexibility and organisational learning, including the factor of QM as the main contribution.

In general, our information reinforces the importance of CEOs’ social networks in the development of strategic capabilities in the organisation (Fernández-Pérez, García-
Morales, & Bustínza-Sánchez, 2012). In particular, the dimension of size affects strategic flexibility positively in the three groups observed and organisational learning in the non-QM and ISO firm groups. As we have established, a greater number of contacts generates a large number of points of view, which contributes to knowing more ideas and creating new ones (Obstfeld, 2005). The absence of a significant relationship between size and organisational learning in the TQM firm group is discussed below.

For both capabilities, strategic flexibility and organisational learning, strength is developed significantly to a greater extent in the TQM firms than in the ISO or non-QM firms, constituting an example of the contribution of QM to external networks. For example, we have mentioned the importance of trust, a key element in TQM, in forging strong relations (Dyer & Nobeoka, 2000; Lorenzoni & Lipparini, 1999). On the other hand, strong networks require detailed information exchange (Krackhardt, 1992; Uzzi, 1996) characterised by frequent interaction (Granovetter, 1982). This study has shown that the TQM firms generate greater strength in external social networks through their structural practices, including supply management, cooperation, benchmarking, knowledge-sharing or learning, and develop stronger external social networks, which contribute significantly to strategic flexibility and organisational learning.
It is important to take a look at the negative effect detected in the case of the dimension ‘range’ for the non-QM firms for both capabilities. This result implies that as the different categories of agents with which we associate increase, strategic flexibility and organisational learning decrease. A greater range implies a greater number, complexity and even juxtaposition of ideas and information received. This can lead to immobility or delayed reactions (Simon, 1959; Szulanski, 1996). Although variety increases the range of the organisation’s potential behaviours, it can also create confusion and generate costs (Borgatti & Cross, 2003). Thus, this result can be due to the fact that the non-QM firms are not used to manage a high number of different agents, unlike the ISO and TQM firms, which is inherent in the QM principles, especially in the TQM philosophy. However, by observing the range in the other two groups, we can confirm that – in spite of the fact that it is lower for the group of ISO firms and higher for the group of TQM firms – its influence is not significantly negative for any of the cases.

By observing all the variables, if we divide the sample into non-QM firms, ISO firms and TQM firms, we can draw two important conclusions. First, TQM firms develop all the dimensions of external social networks, strategic flexibility and organisational learning to a greater extent. Second, the importance of the influence of the dimensions of external social networks on strategic flexibility and organisational learning decreases significantly when we move from the non-QM firms to the ISO and TQM firms. An explanation for this could be that the TQM philosophy emphasises other structural elements inherent in it, such as strategic leadership, teamwork or stimulating decision-making processes, possibly achieving more relevance, rather than network dimensions, especially if we compare them for the non-QM and ISO firms. Ruiz, Lloréns, and García Morales (2005) studied 127 service firms in the European Union and observed the positive relationship between TQM practices and organisational learning. However, they established that some of the relationships were indirect, instead of being direct. This is the case of leadership, policy and strategy, resources and partnerships, and people. The indirect relationships between partnerships and organisational learning could be an explanation for the absence of a relationship between network size and organisational learning. Probably, for organisational learning, the diversity is more important than the amount of information or knowledge. However, as a significant relationship has been found between network range and organisational learning, further studies could be directed towards this line of research.

As we have observed, at present, managers face a wide range of possibilities for implementing QM in their organisations. Our conclusions may help them in making this kind of decision, and due to the fact that TQM firms develop external network dimensions to a greater extent, strategic flexibility and organisational learning are important aspects that should be considered when alternatives of TQM and ISO standards are compared.

Our research has several implications for business practitioners. This study provides evidence that external networks serve as important informational resources for CEOs and firms. They must be conscious of the fact that social networks have both different potential benefits and significant costs (time, resources, etc.) (Alder & Kwon, 2002). So, if different network characteristics affect firm capabilities and performance differently, firms should be careful while creating the network structures that are more interesting for their particular interests or needs. CEOs’ networks could be significant factors in the choice, training and remuneration of CEOs (Collins & Clark, 2003; Geletkanycz, Boyd, & Finkelstein, 2001). On the other hand, using TQM, firms could create value social networks and social change (Bergvall-Kareborn, Bergquist, & Klefsjö, 2009) that could be interesting for improving flexibility, learning and performance.
Finally, organisations should encourage the acquisition, implementation, transformation and use of new and relevant knowledge through CEOs’ networks. Managers must take continuous and substantial efforts to develop knowledge management in the organisation. These include encouraging more modern organisational structures and compensation policies and stimulating organisational flexibility and learning to encourage better knowledge transfer (Lane & Lubatkin, 1998; Nonaka & Takeuchi, 1995). Besides this, they have to consider that the adoption of TQM practices in organisations is positively and significantly related to learning orientation, flexibility and market performance (Siew-Yong, Voon-Hsien, Keng-Boon, & Binshan, 2011).

In conclusion, our results highlight the importance of the social networks of CEOs in fostering strategic flexibility and organisational learning. We hope that these results would spur additional research encompassing CEO psychology, strategic behaviour and firm performance. Such research could provide a better understanding of the mechanisms underlying the relationship between CEOs and firm performance.

5.2. Limitations and future research

Among the limitations of our study, we must include the fact that an alternative implementation of QM was observed using a single item, instead of a compound construct. Together with the cross-sectional character of the research, this factor somewhat limits the generalisation of the results of this study. Thus, longitudinal research that analyses a greater number of cases and that observes effects on different kinds of organisations could enrich the literature on the external social networks and QM initiatives.

Furthermore, one could analyse internal managerial social networks, as well as those established between workers themselves, to determine their effects on the generation of different dynamic capabilities. On the other hand, one could study the influence of the social networks on the different kinds of flexibilities (strategic, structural and operative). This would deepen our understanding of the influence of managerial networks on strategic and structural levels, as well as the effects of the networks with workers and the influence of networks between workers on the levels of operational flexibility. Finally, establishing direct multiple comparisons between these (ISO and TQM) and other QM (the EFQM model, Quality Control and Lean Manufacturing) initiatives could bring about a deeper understanding of their functioning, helping managers differentiate between them.

Note

1. At present, ISO standards are the most extended initiatives for QM (Magd & Curry, 2003), and TQM also constitutes a QM representative initiative as it is associated with other alternatives such as the EFQM model (Heras-Saizarbitoria, Casadesús, & Marimón, 2011; Saizarbitoria & Heras, 2006) and the Six Sigma methodology (Green, 2006).

References


