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Empirical Study about the Role of Social Networks in SME Performance

Structured Abstract

Purpose: This study shows the role of social networks in the performance of small and medium-sized firms (SMEs) in an inland region of Portugal. The main objective is to ascertain the reasons for adhering to social networks and to understand if this type of network influences performance in this firm sector.

Design/methodology/approach: To fulfil these aims, a quantitative research was adopted, based on application of a questionnaire. The final sample is formed of 86 SMEs.

Findings: Based on the results obtained, it is concluded that the SMEs studied are connected to social networks, especially Facebook. The principal reason for this type of firm connecting to social networks has to do with the possibility of presenting services to a greater number of potential customers.

Practical implications: The empirical evidence obtained shows that the reasons associated with cost reduction influence both financial indicators (profit growth) and non-financial indicators (human resource results). Again, communication and innovation influence only non-financial performance (level of satisfaction).

Originality/value: This study contributes to advancing theory in the field of social networks in SMEs. More precisely, it suggests that to assess their performance, SME leaders should not use only measures of a financial nature (sales volume, level of growth, etc.), but rather in combination with non-financial indicators such as customer satisfaction, reputation and others.

Key Words: Social Networks, SMEs, Performance

Article Classification: Research paper

1. Introduction

The uncertainties in the economic panorama, such as instability and increasingly rapid and wide-ranging transformations, have forced firms to look for competitive strategies that ensure their performance and sustainability in the market. The business environment has become more competitive and complex, leading firms to seek to develop strategies for survival and growth. Therefore, firms' involvement in social networks can be a source of competitive advantage.

A social network, in its widest sense, is determined by an aggregate of two elements: actors (people, institutions or groups) and all the connections between these actors, forming a group structure. Social networks are a new phenomenon that changed how the business environment operates. Firms are able to access resources that otherwise would not be available (Andersson et al., 2002). This phenomenon has also helped firms to raise their profile, form strategic partnerships and increase their contact with customers and suppliers.

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Investing in social networks with people inside and outside the organization can make it easier to fulfil firms' growth ambitions. However, small and medium-sized enterprises (SMEs), with their vitally important role for any economy (Aragon-Sanchez and Sanchez-Marin, 2005; O'Regan and Ghobadiah, 2004; Stokes, 2003), do not always fully exploit their innovative and creative capacity, because many of them are far removed from technology (Thach, 2009).

Achieving competitive advantage is increasingly found to be dependent on access to resources beyond the physical boundaries of the firm, with recognition that a firm's critical resources can lie outside (Dyer and Singh, 1998, Andersson et al., 2002). This situation is even more evident when observing the SME universe, where limited resources force them to seek complementarity.

Despite the many advantages of using social networks, research at the organizational level and its impact on business performance has not grown as quickly as would be desirable (Lovejoy and Saxton, 2012; Hassan et al., 2012). Previous studies have investigated the use of social networks in firms, but only a few have examined the impact on performance in SMEs (e.g., Vásquez and Escamilla, 2014; Öztamur and Karakadılar, 2014). For example, Rodriguez et al. (2014) supplied elements proving that social network technologies have a positive impact on customer-oriented processes, which in turn causes an impact on a firm's sales performance.

Irrespective of the existence of these studies, it becomes fundamental to study the role of social networks in stimulating SME performance. Therefore, this study aims to identify the reasons for SMEs adhering to social networks and their influence on performance on this firm segment. In doing so, the study contributes to showing how SMEs can overcome their limited resources through these networks.

The paper is divided in five sections. The second presents a review of the literature dealing with the reasons for SMEs adhering to social networks, SME performance and how social networks are related to performance in this type of firm. The third section will describe the methods used, namely, data collection and analysis, and the fourth will present and discuss the results obtained. Finally, the general conclusions will be presented, together with some implications for theory and practice.

2. Literature Review

2.1 Social Networks and Reasons for Adhesion

According to Pohjola (1991), there was an increasing interest in analyzing social networks in the 80s. Through social networks, organizations can gain access to resources beyond their borders, such as goods, services and innovation (Andersson et al., 2002). Eiriz and Wilson (2006) presented the main contributions to the evolution of Social Network Theory, in the various scientific areas. Key concepts in this field are social network theory and social exchange theory.

Although social exchange theory has its origins in the context of interpersonal relationships and social psychology, this can also be applied to organizational studies. Social exchange

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theory refers to the exchange of intangible resources with symbolic benefits, such as knowledge, information, status, honor and friendship (Blau, 1964; Cropanzano and Mitchell, 2005; Liao, 2008). The main contribution of social exchange theory to the business literature is its recognition of the effects of dependence among trading partners, and thus, in this context, interdependence is critical to sustaining a good social exchange relationship (Lambe et al., 2001). When an organization or firm is the unit of analysis, the exploratory variables (individual characteristics, situational restrictions and process-related factors) of social exchange have to be adapted to the subject of study (Eiriz and Wilson, 2006).

From the perspective of social networks and with the development of the internet, especially the appearance of Web 2.0 (O'Reilly, 2005), new opportunities and benefits have been opened up to firms and the population in general, given the ease of communication and the speed with which information is spread. One of the greatest opportunities was the advent of new online network applications known as social networks (Tredinnick, 2006; Boyd and Ellisson, 2007; Constantinides et al., 2008).

In the literature, different definitions have been used to describe the meaning of social networks, such as social bonds, interpersonal relationships, personal relationships, social relationships and relational networks (Zhou et al., 2007). Table 1 presents various definitions of social networks according to the perspective of different authors.

Table 1 here

An extremely important term associated with social networks is that of relationship. A relationship can be defined as a mutually oriented interaction between two reciprocally committed parties (Håkansson and Snehota, 1995). So, in an economy where collaboration and innovation play a central role in organizations' effectiveness, it becomes necessary to look at a set of relationships on which people depend to carry out their work (Cross et al., 2001). In this context, social networks have prominent role, as they are formed by users' interactions, allowing relationships to be formed with people who are geographically distant, without limitations in terms of mobility. With the natural work unit moving from the individual's responsibility to collaborator networks, as many business tasks are realized through network structures rather than the formally constituted organizational structure (Cross et al., 2005).

The particularity of social networks is unleashing a source of innovations with respect to social, economic, political and other factors. This specific topic does not have a completely defined root, and its contributions are also being increasingly extended, as those connections and restrictions of relationships can be inverted at any moment, with networks being created, intensified, dismantled, constructed from others, destructed and reconstructed (Ferreira and Vitorino Filho, 2010).

Social networks contain information about individuals' profiles and their network, which can be used for various business purposes. What makes these networks attractive for companies is their ease of use and that they provide communication in real time (Jacobs, 2009). In these networks, there is commercialization of methods which, compared to traditional marketing, are equally effective and cheaper, or even free. Social networks help to intensify greater network organization, a greater change of ideas and greater integration of knowledge (Al-Badi and Al-Qayoudhi, 2014).

A firm's possibility to be close to its customers, to share and exchange benefits with them, is very important. The benefits of representation/participation in social networks only exist if firms are able to understand the power of collective behaviour in stimulating positive change in business (Bradley, 2011). Firms can reach the countless customers or potential customers they cannot access otherwise, while saving an enormous amount of money in advertising campaigns (Al-Badi and Al-Qayoudhi, 2014). Social networks are also advantageous as firms can sell the product on a single page of one of the various possibilities offered by social network sites, without having to pay someone to demonstrate or sell it. Many firms already use social networks to recruit employees, making the search for staff easier too.

According to Miller and Prior (2010), social networks allow their owners to assess their users' behaviour patterns, see what contents please their community most and what attitudes and behaviours their advertising provokes. Firms can create global collaboration, which allows them to discuss matters and concerns virtually and make the best business decisions. Another advantage arises when a firm wants to introduce new products, which in a first phase they can present through demonstration in a virtual world and ask for feedback from people via social networks.

2.2 Social Networks and SME Performance

Since the barriers to using social network technology are low, SMEs can employ them in the same way as large firms, without the need for major resources. The internet can also make it easier for a firm to expand its reach and extend its main business through market penetration or product development. Porter (2001) goes further by saying that relationships formed via the internet can stimulate sales and create opportunities to provide new products and services. In addition, SMEs' innovation capacity is important because it improves not only their competitiveness, but also the whole industry and economy through connections and spreading knowledge with other firms.

The innovative capacity of SMEs is essential for sustainable competitive advantage in a rapidly changing market, where the continuous development of new products and processes is the key to survival, growth and profitability (Nieto and Santamaría, 2010). Due to their limited resources, SMEs use a variety of sources and are connected to different networks to obtain the information they need to develop their strategy and gradually organize their environment. Social networks keep SMEs up to date with changes in the economy, letting them take advantage of opportunities to innovate. For Varis and Littunen (2010), the introduction of different types of innovation in SMEs is associated with the use of different types of information sources and collaborative relationships.

The social network is also an important part of marketing strategies in business life (Öztamur and Karakadılar, 2014). It is an advantage to build trust between customers and the firm in a way never seen before with traditional means of communication. Awareness, trust and reputation are the most important benefits of using social networks for SMEs to strengthen their market position (Gligorijevic and Leong, 2011). It is true that given its viral characteristics, social network marketing can be more effective in building up knowledge of the brand, strengthening its reputation and increasing sales. It is difficult to determine its contribution in relation to paid advertising and other types of promotion. What is important for SMEs is following the most influential users through related topics and analyzing strategic methods for their own benefit.

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In the SME context, Vásquez and Escamilla (2014) made a study where they tried to create methods for better practices in using social networks and their presence in SMEs to make them more competitive. Ferrer et al. (2013) demonstrated that the use of social network technology has a positive impact on an organization's capital and therefore on its performance. Casson and DellaGiusta (2007) state that the 'capitalized value' of social networks contribute to future economic performance, a view supported by Molina-Mart Morales and Martínez-Fernandez (2010) and Zhang and Fung (2006).

In addition, Wong (2012) concluded that the use of Facebook has a positive impact on SME business. This is supported in the study by Kwok and Yu (2013), which found that sales can increase with the use of Facebook. When organizations use Facebook, there is likely to be a positive impact in terms of both financial and non-financial performance. Ainin et al. (2015) found that using Facebook has a strong positive impact on organizations' performance in terms of increased sales transactions, sales volume and number of customers. The use of Facebook also has a positive impact on an organization's non-financial performance. The finding is consistent with previous results showing positive relationships between technology use and organizational performance (Shuai and Wu, 2011; Stone et al., 2007; Apigian et al., 2005).

Therefore, and based on the theoretical suppositions presented, the following research hypothesis is formulated:

Hypothesis: *Social networks have a positive influence on SME performance.*

3. Research Methodology

3.1 Population and Sample

The population of this study was SMEs in the districts of Vila Real and Bragança, Portugal. Despite significant effort and investment being made in recent years in these districts, the region presents development indices clearly under the regional and national average. It is an inland area of low population density and it is important to stabilize the population through job creation. It is therefore relevant to characterize SMEs' participation in social networks, analyzing how these firms' indicators of a financial and non-financial nature are influenced. The aim is also to make firms in this region aware of the importance of using these networks. This study is also important because these companies present demographic characteristics that are different from those in more urban environments.

The SMEs selected for this study were identified from a database supplied by Informa D&B[1] (N=1.329). Since quantitative research aims to determine to what extent the results obtained can be generalized to the population, it is necessary to use techniques allowing selection of experimental samples.

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[1] https://www.informadb.pt/idbweb/

3.2 Data Collection

To achieve the goals proposed for this investigation, a questionnaire was drawn up based on other scientific studies. The variables identified in the literature are grouped in Table 2 (reasons) and Table 3 (performance indicators). To measure these variables, 5-point Likert type scales were used, ranging from '1 – Completely Disagree' to '5 – Completely Agree'.

Tables 2 and 3 here

The questionnaire was sent via e-mail to the owner-managers or CEOs of the previously selected 1.329 SMEs. As an incentive to participate, respondents were told they would be provided with a customised summary report of the study's main results. According to Campbell (1955), this key informant approach permits researchers to obtain information about a group or institution by gathering data from selected individuals who are highly knowledgeable about the subject under study. Questionnaires were sent out in the first week of March 2015, and sent out again in the first week of April 2015, since the response rate did not correspond to expectations.

During these weeks, besides sending the questionnaire via e-mail, personal visits were made in order to increase the response rate. From the total of 1.329 SMEs, 103 responses were obtained, 82 of them from the district of Vila Real and 21 from the district of Bragança. However, for the purposes of this study, only SMEs involved in social networks were studied, amounting to a total of 86 firms.

3.3 Data Analysis

After data collection, a descriptive analysis was made, analyzing absolute frequency and the percentage of response. Then, a multi-variate statistical analysis was performed, more precisely factor analysis. Through this type of statistical analysis, it was possible to reduce and combine a wide range of variables in several dimensions so as to explain the phenomenon studied. Each of these dimensions, designated as factors, forms a linear combination of the observed variables, resulting from high correlation indices between the variables, the reason for them being combined in a single factor. Factors are selected according to their percentage of the total sample variance, with the first factor being the one with the greatest percentage, followed by those with progressively lower percentages (Hair et al., 2009). Factor analysis was performed for the reasons for using social networks and for firm performance.

In these factor analyses, the Kaiser-Meyer-Olkin (KMO) measurement test was carried out, with the result varying between 0 and 1 and detecting whether the factor analysis model being used is suitably adjusted to the data. Factor analysis validity is favourable if it presents a KMO between 0.5 and 1. The Bartlett Sphericity Test was also considered to check whether the correlation matrix is an identity matrix, indicating no correlation between data, and so there is an association between the factors (Hair et al., 2009). The Cronbach's Alpha acceptability measure was also analyzed, to measure the degree of internal consistency between one or more variables in each factor. An alpha above 0.70 is recommended (DeVellis, 2011).

Finally, to validate the research hypothesis, an estimation process through Multiple Linear Regression was used, in order to study the relationship between the dependent variable and

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the independent variables. To preliminarily examine a potential multicollinearity among the variables, correlation coefficients, the VIF (Variance Inflation Factor) and the T (Tolerance Values) were calculated.

4. Results and Discussion

4.1 Sample Characterization

Table 4 shows the sample characterization. Concerning gender, the majority of respondents are seen to be male and they have higher education. The most predominant age group is 31-40 years with 39.5%. As for the position occupied by the respondent, the great majority, 80.6%, are in Management (Administration and Directors).

Table 4 here

The most frequently mentioned sectors of activity are Commerce and Services, with 44.2% and 22.1% respectively, and the least frequent are Industry, Tourism and Construction, each with 9.3%. Concerning the length of time they have used social networks, in the 86 SMEs studied, 29.1% were found to have used them for over 5 years, and only 4.9% for less than 1 year. As for the social network site(s) chosen, SMEs in the sample are mostly connected to Facebook (73.8%), with Hi5 being the least common network (10%).

In relation to responsibility for managing the site, of the 86 responses, in 46 SMEs, the person in charge of managing the site is the entrepreneur/director him/herself (44.7%), 7 companies call on someone outside the organization (freelancer) (6.8%). Again, 28 have a collaborator who manages the site (27.2%) and only 2 resort to outsourcing (1.9%). Three firms did not answer this question, not knowing who handled their site management.

4.2 SMEs' Reasons for Adhering to Social Networks

Table 5 presents the variables corresponding to the reasons for adhering to social networks. SMEs in the sample justify their adhesion to social networks due to the ability to 'Present the firm's services to a greater number of potential customers', 36.6% 'Agree' and 58.8% 'Completely Agree' with this statement (average=4.49). Another reason leading many of them to adopt social networks is to 'Obtain low-cost marketing tools', 49.4% 'Agree' that this was one of the reasons why the organization joined these networks (average=3.78).

'Access financing' (average=2.18) was the reason mentioned least by the SMEs studied for being connected to social networks (see Table 9), with a percentage of 64.3% for a negative opinion ('Disagree' and 'Completely Disagree').

From factor analysis, it can also be observed in Table 5 that the reasons are grouped in 5 factors, explaining approximately 70.7% of the variance of the initial variables, with factor 1 explaining 19.8%, factor 2, 15.2%, factor 3, 14.8%, factor 4, 11.1% and factor 5, 9.9%. The Cronbach's Alpha maximizing factor reliability is above 0.7 in 4 of the 5 factors, only being lower in factor 4. The variables were attributed to each factor after analysis of the rotated component matrix.

Table 5 here

The designation attributed to the five factors and a brief description and discussion of them follows below.

Factor 1 - Identification of Opportunities: As shown in Table 5, this factor is composed of six variables that highlight the reasons associated with joining social networks in order to identify and establish new points of communication outside the firm. The variables related to this factor also include increased contact with suppliers, as well as forming strategic partnerships and more communication and distribution channels, as mentioned by Zontanos and Anderson (2004). Greater network organization, with a greater exchange of ideas and integration of information, making it possible to reduce research costs, also mentioned by Jacobs (2009) and Al-Badi and Al-Qayoudhu (2014), as well as the possibility of easier access to resources and financing for the firm's development (Zontanos and Anderson, 2004).

Factor 2 - Sharing Information: This factor is made up of four variables, such as acquiring new customers and accompanying existing customers, developing relationships and the share and exchange of benefits where new business opportunities can be identified. All these reasons are referred to in the studies by Zontanos and Anderson (2004), Miller and Prior (2010) and Bradley (2011).

Factor 3 - Communication and Innovation: Composed of five variables, this factor relates to the brand's increased credibility and prestige, promotion of innovation, personalized products according to the customer's taste, 24-hour support, communnication in real time, all this so as to be close to the customer or potential customer, always satisfying the taste and wishes of each specific case. These reasons are also mentioned by Zontanos and Anderson (2004), Miller and Prior (2010), Bradley (2011), Jacobs (2009) and Al-Badi and Qadyoudhi (2014).

Factor 4 - Cost Reduction: With two variables, this factor corresponds to the variables related to the possibility of reducing the firm's marketing and advertising costs. Social networks provide a low-cost marketing tool, due to giving access to, and letting the firm be known in the world without frontiers, at no extra cost. These reasons are also referred to in the studies by Jacobs (2009) and Al-Badi andAl-Qayoudhi (2014).

Factor 5 - Marketing: Composed by three variables, this last factor corresponds to firms' observation of the environment for its possible expansion. Understanding customers' opinions and gaining their loyalty facilitates the company's internationalization, because it can learn what groups of customers match the business, and therefore seek expansion in the same branch in other places (Zontanos and Anderson, 2009).

4.3 SME Performance

Table 6 presents three factors with variables related to measuring the performance of the SMEs studied, both financial and non-financial indicators. Average values of the answers are between 3.06 and 4.35, revealing that the indicators measuring performance are generally very positive. Of all the variables, 'the firm has a good market image', 'have a good performance with respect to delivery times' and 'the product/service has quality (satisfying customers' needs)' are found to be the most important indicators of SME performance, since

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the averages are above 4.2. These indicators demonstrate that, in the end, the level of customer satisfaction is more relevant than financial indicators.

Three factors explain 71.2% of the variance of the initial variables. Factor 1 stands for 29.3%, factor 2 for 27.6% and factor 3 for 14.3% of the variance. The Cronbach's Alpha maximizing factor reliability is above 0.70 in the first two factors, and is only under this in the third.

Table 6 here

Factor 1: Growth of Profits includes five variables showing the importance of SMEs' financial results: return on assets, sales growth, increased profitability and increased average value of sales without tax. These indicators were also mentioned by Matsuno and Metzer (2000), Spanos and Lioukas (2001), McCann et al. (2001), Sánchez and Bañón (2005), Pérez de Lema and Miñarro (2006), Olaru et al. (2014) and Florido et al. (2015).

Factor 2: Level of Satisfaction, explains an almost identical percentage as financial indicators. SMEs begin to value not only financial indicators but give the same importance to non-financial ones. These six variables are shown to be very important for SMEs to achieve performance. The variables associated with this factor are product quality (satisfying the customer's needs), satisfaction of the firm's customers/collaborators/shareholders, good firm performance regarding delivery times and good market image. Indeed, all these were referred to in studies by Beal (2000), Kemp and Verhoeven (2002), Sánchez and Bañón (2005), Pérez de Lema and Miñarro (2006), Olaru et al. (2014) and Florido et al. (2015).

Factor 3: Human Resource Results, with two variables, concern the growth/increase in the number of collaborators and their productivity. These are important indicators, as they allow confirmation of personal satisfaction, objectives attained and the desire to remain in the firm. These indicators were also mentioned by Matsuno and Metzer (2000), Pelham (2000), Beal (2000), Kemp and Verhoeven (2002), Sánchez and Bañón (2005), Pérez de Lema and Miñarro (2006), Olaru et al. (2014) and Florido et al. (2015).

4.4 Influence of Social Networks on SME Performance

The following Table 7 presents the descriptive statistics and the correlation matrix of the variables considered in the study. Based on the results obtained, 'Communication and Innovation' and 'Share of Information' are found to be the most important factors for the use of social networks in the SMEs studied, while 'Identification of Opportunities' is less important. Regarding SME performance, of the three factors the most important one for the SMEs studied is 'Level of Satisfaction', finding therefore that non-financial indicators predominate over financial ones in performance.

Table 7 here

Based on this correlation matrix, it also stands out that the factors show an only moderate level of correlation to each other, none of them exceeding the cut-off value of 0.60 (Ott and Longnecker, 2008). Moreover, the VIF values are equal to, or under 5, and the T values are above 0.1, which according to O'Brien (2007) indicates no multicollinearity problems.

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Aiming to test the research hypothesis and as already mentioned, a multiple linear regression was performed with the five factors for using social networks (independent variables) and the three factors of SME performance (dependent variables). Analysis of those regressions is found in Table 8.

Table 8 here

The results of the three linear regression analyses models presented in Table 8 show that the factors for using social networks associated with 'Communication and Innovation' only have a positive influence on performance measured by 'Level of Satisfaction' (Beta=0.278*). Indeed, 'Communication and Innovation' is related to SMEs presenting new services/products, the development of personalized products/services of quality that the customer is looking for, and 'Level of Satisfaction', in performance, concerns customers' needs being satisfied and customers' satisfaction with the firm, and so one factor is completely in tune with the other. In this case, in terms of performance, the non-financial indicator predominates.

As for the factor of 'Cost Reduction', this influences the other two factors of performance, 'Growth in Profits' (Beta=0.309**) and 'Human Resource Results' (Beta=0.457***). In 'Cost Reduction', it is a question of reducing advertising and marketing costs, which allows increasing the amount of capital that can be applied to other purposes, connecting with 'Human Resource Results' where it is possible to increase the number of collaborators and increase their productivity. By reducing costs, clearly profits and profitability rise. As social networks are a way to get in contact with the customer anywhere in the world, sales increase too.

Therefore, the hypothesis proposing that social networks influence SME performance is partially supported.

5. Conclusions and Implications

The main objective of this study was to identify the reasons for SMEs using social networks, and find out how this type of network improves their performance. To achieve this goal and validate the research hypothesis formulated, a quantitative research approach was adopted, with the data-collecting instrument being a questionnaire applied to a final sample of 86 SMEs.

Based on the results obtained, the social network most commonly chosen by the SMEs in this sample is Facebook. Concerning management of profile in these networks, in the majority of the firms analyzed, the entrepreneur/manager him/herself takes on this function, with a small number of SMEs resorting to outsourcing.

The SMEs studied use social networks to present their services to a greater number of potential customers and to obtain low-cost marketing tools. In this way, they have access to a vast amount of information about people and organizations and can become known to potential customers without barriers. The reason least mentioned was to seek finance. The reasons for joining social networks were grouped in five factors: (1) Identification of Opportunities, (2) Share of Information, (3) Communication and Innovation, (4) Cost Reduction and (5) Marketing.

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Detailed analysis of the results also reveals that for those in charge of the SMEs studied, assessment of their business performance is measured by both financial and non-financial indicators. Of the three factors measuring SME performance: (1) Growth in Profits, (2) Level of Satisfaction and (3) Human Resource Results, the most important indicators in assessing performance are customers/collaborators' satisfaction, having a good performance regarding delivery times, and customers' needs being met. From the results obtained, it is noted that SMEs generally assess the degree of satisfaction in relation to customers and some business activities through non-financial indicators.

However, this does not mean that all the reasons for using social networks have had an influence. The empirical evidence shows that the reasons/factors associated with cost reduction influence both financial indicators (Growth in Profits) and non-financial ones (Human Resource Results) and communication and innovation only influence non-financial factors (Level of Satisfaction). The reasons mentioned are those that allow improvements in SME performance.

The results of this study are important because they confirm the results obtained through conventional deductive research, which represents the majority of the studies cited. Thus, from empirical evidence, Figure 1 proposes a conceptual model that shows the reasons SMEs follow for adhering to social networks, in particular identification of opportunities, share of information, communication and innovation, cost reduction and marketing. The proposed model also represents two other important dimensions found to measure business performance: financial and non-financial indicators, such as growth in profits, level of satisfaction and human resource results. The different indicators within these dimensions have been discussed in the literature review and are consistent predictors of business performance in SMEs.

Figure 1 here

From this model, and based on the outcomes, several practical implications for SME managers can be presented. Due to the existence of a significant number of indicators SMEs can adopt to quantify their performance, assessment of this is difficult to achieve. It is therefore recommended that to assess their performance, SME leaders should not use only measures of a financial nature (sales volume, level of growth, etc.), but rather in combination with non-financial indicators such as customer satisfaction, reputation and others. Another implication of this study is associated with the awareness of SMEs' top management, in the sense of highlighting the importance of social networks for the share and transfer of knowledge as well as cost reduction.

From a practical viewpoint, this study is also of use in considering and designing social network policy in the SME sector. Knowing the role and importance of social networks is relevant insofar as it allows SMEs to create effective mechanisms to enhance good performances and achieve competitive advantages. This paper has also found that social networks represent networking to build and support marketing activity and this is associated with the use and development of informal and interactive ways of communication.

The fact of a relationship between social networks and performance in the SMEs studied here can be mentioned, as this has a relevant role in this small firm segment. Therefore, these firms must be made aware of this type of social networks, as these influence business performance.

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If those in charge of SMEs are sensitive to this phenomenon, they can achieve positive results, which in turn contribute to the firm's success. SMEs should find strategies to increase social network adoption, so that these can contribute to improving their performance.

Social networks are suited to SMEs because they are low-cost tools, with low barriers to participation and a low level of information technology skills is needed to use them. SMEs should therefore see social networks as facilitating work, as a means to reduce costs and possibly expand their business. Business-people are those with the greatest need to benefit from using them to bring results for the firm. Nevertheless, SMEs need to understand that it is not enough to be present in the biggest or best-known social networks and place content without specific objectives. For an effective social network plan, it is necessary to define strategies where it is important to know the existing typologies of social networks, understanding their purpose and the advantages to be gained from a presence. Objectives must be defined when joining social networks, so as to take maximum advantage from them for online business.

This study is not without limitations. The main one detected while elaborating the research was the population's mistrust and resistance to collaborate, and so the sample was small. The conclusions drawn should therefore be interpreted with some reservations. Secondly, as the research was based on a sample of SMEs in a specific region and given the limited period of time, this may indicate more efforts need to be made in longitudinal studies and total or partial repetition of this study, in order to identify evolutionary tendencies.

Despite these limitations, it is considered this study can be seen as a contribution to filling existing gaps and to future research on SMEs' reasons for using social networks, therefore indicating new paths towards future viability and developments, possibly a comparative analysis of these and in other sectors of activity. This work also contributes to enriching the literature on study of the reasons for using social networks in SMEs and their determinants, as well as their relationship with SME performance.

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Annex

Figure 1: Conceptual Model
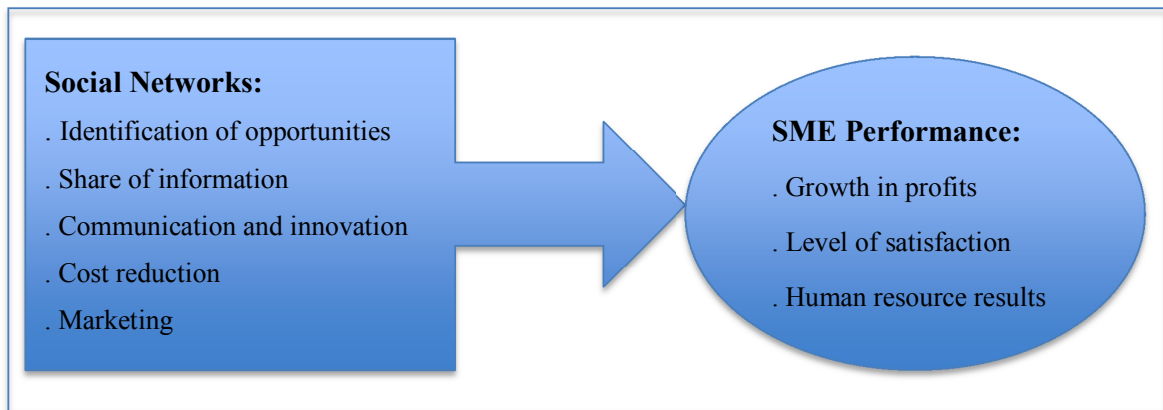
Table 1: Definition of Social Networks

Author(s)	Definition
Tichy et al. (1979)	Social networks are a specific set of connections between a defined set of people, and in addition, the characteristics of those connections as a whole can be used to interpret the social behaviour of the people involved.
Björkman and Kock (1995)	The social network is a relationship of individuals who are connected through social interactions based essentially on social exchanges, but which can also contain the exchange of information and business.
Newstrom (1997)	Network is a group of people, firms, institutions or associations that develop and are related formally or informally, keeping contact or sharing some common interest.
Lee (2000)	A social network can be defined as a set of nodes or actors (people or organizations) connected by social relationships or bonds of a specific type.
Borgatti and Foster (2003)	A network is a set of actors (nodes), linked by a set of bonds.
Brass et al. (2004)	Networks are a set of nodes and bonds that represent some relation, or lack of relation between the nodes.
Downes (2005)	A social network is a set of individuals linked to each other by a set of relationships.

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Table 2: Reasons Linked to Social Networks

Reasons	Author(s)
Strategic Alliances	Zontanos and Anderson (2004); Al-Badi and Al-Qayoudhi (2014)
Form new partnerships with distributors	Al-Badi and Al-Qayoudhi (2014)
Identify new suppliers	Zontanos and Anderson (2004)
Communicate/share points of view with firms in the same branch	Al-Badi and Al-Qayoudhi (2014)
Access financing	Zontanos and Anderson (2004).
Reduce research costs	Zontanos and Anderson (2004)
Access new customers more easily	Jacobs (2009); Al-BadiandAl-Qayoudhi (2014)
Keep in contact with customers	Zontanos and Anderson (2004); Miller and Prior (2010); Bradley (2011)
Identify new business opportunities	Zontanos and Anderson (2004); Miller and Prior (2010); Bradley (2011).
Be attentive to the market/competitors, observe/gather information	Zontanos and Anderson (2004); Miller and Prior (2010); Bradley (2011).
Improve the brand's credibility and prestige	Miller and Prior (2010); Bradley (2011)
Present ideas/innovations/new services/products	Al-Badi and Al-Qayoudhi (2014).
Present the firm's services to a greater number of potential customers	Zontanos and Anderson (2004); Miller and Prior (2010); Bradley (2011)
Communication in real time, at any time and place	Zontanosand Anderson (2004)
Develop new personalized product/services with quality	Zontanos and Anderson (2004); Miller and Prior (2010); Bradley (2011)
Obtain low-cost marketing tools	Jacobs (2009); Al-Badi and Al-Qayoudhi (2014)
Reduce communication costs	Jacobs (2009); Al-Badi and Al-Qayoudhi (2014); Zontanos and Anderson (2004)
Gather feedback fromcustomers	Jacobs (2009); Al-Badi and Al-Qayoudhi (2014)
Customer loyalty	Jacobs (2009); Al-Badi and Al-Qayoudhi (2014)
Facilitate the internationalization process	Al-Badi and Al-Qayoudhi (2014)

Table 3: Performance Indicators

Indicators	Author(s)
Growth in profits	Matsuno and Metzer (2000); Beal (2000); Teach and Schwartz (2000); Olaru et al. (2014); Florido et al. (2015)
Increased profitability	Beal (2000); Teach and Schwartz (2000); Pelham (2000)
Increase the value of sales	Sánchez and Bañón (2005); Pérez de Lema and Miñarro (2006); Olaru et al. (2014)
Increase the average return on assets	Teach and Schwartz (2000); Pelham (2000); Spanos and Lioukas (2001)
Increase the average amount of profit without taxes	Teach and Schwartz (2000); Pelham (2000)
The product/service has quality (customers' needs are satisfied)	McCann et al. (2001); Sánchez andBañón (2005
The firm's customers are satisfied	Beal (2000); Kemp and Verhoeven (2002); Sánchez and Bañón (2005); Pérez de Lema and Miñarro (2006)
The firm has a good performance regarding delivery times	McCann et al. (2001); Sánchez and Bañón (2005
The firm has a good market image	Sánchez and Bañón (2005); Pérez de Lema and Miñarro (2006)
The firm's collaborators are satisfied	Matsuno and Metzer (2000); Pelham (2000); Beal (2000); Kemp and Verhoeven (2002); Sánchez and Bañón (2005); Pérez de Lema and Miñarro (2006); Olaru et al. (2014); Florido et al. (2015)
The firm's shareholders are satisfied	Beal (2000); Kemp and Verhoeven (2002); Sánchez and Bañón (2005); Pérez de Lema and Miñarro (2006)
Increased number of collaborators	Sánchez and Bañón (2005); Pérez de Lema and Miñarro (2006)
Increased collaborator productivity	McCann et al. (2001); Sánchez and Bañón (2005); Pérez de Lema and Miñarro (2006); Olaru et al. (2014)

Table 4: Sample Characterization

	Frequency (n = 86)	Percentage
Gender:		
Male	60	69.8
Female	26	30.2
Academic Qualifications:		
PhD	2	2.3
Master	8	9.3
Post-graduate	4	4.7
Degree	31	36.0
Technical Course	12	14.0
Secondary Education	24	27.9
Basic Education	5	5.8
Age:		
Under 20 years	1	2.2
21-30	9	10.5
31-40	34	39.5
41-50	25	29.1
Over 51	17	19.8
Position in the Firm:		
Management	71	82.6
Technical-Commercial	13	15.1
Other	2	2.3
Age of the Firm:		
Under 1 year	2	2.3
1 to 5 years	27	31.4
6 to 10 years	14	16.3
Over 10	43	50.0
Sector of Activity:		
Services	19	22.1
Construction	8	9.3
Tourism	8	9.3
Commerce	38	44.2
Industry	8	9.3
Other	5	5.8

Table 5: Factor Analysis – Reasons for adhering to social networks

Reasons	Ave.	Stand. Dev.	OwnVal.	% Variance	% Accum. Variance	Loadings	Cronbach's Alpha
Factor 1: Identification of Opportunities			3.954	19.770	19.770		0.860
Strategic alliances	3.013	1.0645				0.823	
Form new partnerships with distributors	3.145	1.0671				0.816	
Identify new suppliers	3.342	1.1142				0.776	
Communicate/share points of view with firms in the same branch	3.408	1.2020				0.685	
Access financing	2.184	1.0028				0.681	
Reduce research costs	3.184	1.1161				0.500	
Factor 2: Share of Information			3.044	15.220	34.991		0.772
Easier access to new customers	4.263	0.7549				0.836	
Keep contact with customers	4.026	0.7996				0.723	
Identify new business opportunities	3.961	0.9010				0.711	
Be attentive to the market/competitors, observe/gather information	3.789	0.8991				0.573	
Factor 3: Communication and Innovation			2.954	14.769	49.760		0.830
Improve the brand's credibility and prestige	4.053	0.9077				0.792	
Present ideas/innovations/new services/products	4.184	0.7952				0.788	
Present the firm's services to a greater number of potential customers	4.487	0.7393				0.787	
Communication in real time, at any time and place	4.053	0.9784				0.631	
Develop new, personalized products/services with quality	3.684	0.9268				0.525	
Factor 4: Cost Reduction			2.212	11.058	60.818		0.633
Obtain low-cost marketing tools	3.776	0.9605				0.803	
Reduce communication costs	3.789	1.0993				0.729	
Factor 5: Marketing			1.971	9.856	70.674		0.712
Gather feedback from customers	3.789	0.9138				0.720	
Customer loyalty	3.329	0.9576				0.615	
Facilitates the internationalization process	3.421	1.2140				0.578	

n=86; KMO=0.818; Bartlett Sphericity Test: Approx- Chi-squared= 850.449; g.l.= 190; sig.=0.000

Table 6: Factor Analysis – Performance indicators

Performance	Ave.	Stand. Dev.	Own Value	% Variance	% Accum. Variance	Loadings	Cronbach'a Alpha
Factor 1: Growth of Profits			3.806	29.280	29.280		0.895
Growth of Profits	3.545	0.8565				0.907	
Increased profitability	3.602	0.7662				0.866	
Increased value of sales	3.682	0.8101				0.857	
Increased average return on assets	3.466	0.7573				0.832	
Increased average value of profit, without tax	3.159	1.0382				0.562	
Factor 2: Level of Satisfaction			3.585	27.578	56.858		0.849
The product/service has quality (customers' needs are satisfied)	4.205	0.6808				0.859	
The firm's customers are satisfied	4.080	0.6472				0.849	
The firm has a good performance regarding delivery times	4.239	0.6947				0.830	
The firm has a good market image	4.352	0.6616				0.771	
The firm's collaborators are satisfied	4.023	0.7578				0.709	
The firm's shareholders are satisfied	3.807	0.8952				0.500	
Factor 3: HR Results			1.865	14.347	71.205		0.671
Increased number of collaborators	3.057	1.1382				0.883	
Increased collaborator productivity	3.420	0.8673				0.756	

n=86; KMO=0.833; Bartlett sphericity test: Approx. Chi-squared= 723.769; g.l.=78; sig.=0.000

Table 7: Descriptive Statistics and Pearson Correlation Matrix

Variables	Mean	Stand. Dev.	1	2	3	4	5	6	7	8
1. Identification of Opportunities	2.98	0.82	1							
2. Share of Information	3.95	0.62	0.415**	1						
3. Communication and Innovation	4.05	0.69	0.338**	0.570**	1					
4. Cost Reduction	3.70	0.91	0.568**	0.336**	0.368**	1				
5. Marketing	3.41	0.80	0.583**	0.571**	0.585**	0.471**	1			
6. Growth in Profits	3.52	0.72	0.224	0.118	0.290*	0.341**	0.161	1		
7. Level of Satisfaction	4.16	0.51	-0.093	0.210	0.390**	-0.006	0.068	0.369**	1	
8. Hunan Resource Results	3.22	0.83	0.255*	-0.040	0.050	0.389**	0.092	0.504**	0.215*	1

*p $\leq$ 0.05; **p $\leq$ 0.01

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Table 8: Regression Analysis of the Influence of Social Networks on SME Performance

		Dependent Variables: SME Performance Factors		
		Growth in Profits	Level of Satisfaction	Human Resource Results
		(Standardized *Beta* Coefficients)		
Independent Variables: Factors for Using Social Networks	Identification of Opportunities	0.078	-0.165	0.092
	Share of Information	-0.084	0.158	-0.156
	Communication and Innovation	0.241	0.278*	-0.047
	Cost Reduction	0.309**	-0.008	0.457***
	Marketing	-0.154	-0.114	-0.088
F-value		2.286	1.665	3.434
p-value		0.057	0.056	0.008
R square		0.154	0.115	0.214
Adjusted R^2		0.086	0.046	0.152

*p $\leq$0.10; **p$\leq$ 0.05; ***p$\leq$0.01