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The Role of Supply Chain Integration in the Relationship between Market Orientation and Performance in SMEs

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Abstract

The purpose of this paper is to verify the alignment between market orientation and supply chain integration practices for improving performance in small and medium-sized enterprises (SMEs). A model of the relationships between variables was derived from the literature. Data from 327 SMEs were analysed by confirmatory factorial analysis (CFA) to verify the relationships. The findings show that market orientation indirectly and positively influences performance via supply chain integration. The direct relationship between market orientation (MO) and supply chain integration (SCI) was also confirmed. Likewise, the relationship between market orientation and supply chain integration was found to be strong and positive. The findings suggest that the generation of information in market oriented SMEs favours their sharing information both inter- and intra-organizational. A discussion of these findings, the implications for practice, and proposals for further research are provided.

Keywords: market orientation, supply chain integration, performance, SMEs

1 INTRODUCTION

Since the beginning of the discussion surrounding market orientation (MO) in the early 1990s, there have been many different studied regarding the phenomenon. Whithin which, stand out some more important aspects and studies than others in the literature, and to the extent that research on MO advances, even more aspects of the theme are discovered. For instance, there continue to be inconsistent results regarding the MO-performance relationship (see Langerak, 2003; Raju, Lonial, & Crum, 2011; Liao, Chang, Wu, & Katrichis, 2011). This relationship has been considered the starting point of research since the initial theoretical propositions of Narver and Slater (1990) and Kohli and Jaworski (1990). As to inconsistent results in the MO-performance relationship, Langerak (2003) concluded that the weak or non-existent association between the two reported in different studies is due to the variety of scales used in measuring the concepts, the context in which the research takes place, i.e. different countries, and the type of sample used, i.e. cross-sectional, single-corporation survey, etc. Furthermore, despite the number of studies about MO and its relationship to performance, little is known about the scope of the concept relationships beyond the limits of the organization. Research that relates MO to inter-firm practices and the result of both on performance remain incipient (Cambra-Fierro, Florin, Perez, & Whitelock, 2011). This is the case of the relationships among MO, supply chain management (SCM) and performance (Jüttner, Christopher, & Godsell, 2010). As Min, Mentzer, and Ladd (2007, p.508) point out "despite apparent logical association between MO and SCM concepts and the possible mediating role of SCM concepts in the MO-performance link, there have been few, if any, attempts to investigate MO in a supply chain context".

To insert SCM discussion in the MO context implies to recognize that, in order to respond to customer needs - and consequently achieve better performance - firms not only have to manage their own resources and capabilities, but they are dependent on the resources and capabilities of supplying firms (Kibbeling, Bij, & Weele, 2013; Green, Whitten, & Inman, 2012). Kibbeling et al. (2013, p.500) state that firms now realize that "some value-creating activities are carried out in the supply chain beyond the firm's direct control". Therefore, the ability to integrate and coordinate activities across the supply chain becomes crucial to satisfying the demands of the ultimate customers of the supply chain (Green et al., 2012). This means, that MO key concepts become a supply chain concern as they move beyond the boundaries of the individual firm (Baker, Simpson, & Siguaw, 1999; Min et al., 2007; Martin & Grbac, 2003). Furthermore, MO can affect firm performance by influencing its supply chain management (Green, McGaughey, & Casey, 2006).

Despite mutual benefits of a close alignment between market orientation and supply chain management (Jütner et al., 2010), research on MO and SCM have been developed in parallel to each other and there have been few studies that emphasize the joint effects of the practices on business results (Green et al., 2012). Among studies that have examined market orientation in a supply chain setting, a group of researchers focus on how market orientation influences buyer-supplier relationships (Siguaw, Simpson, & Baker, 1998; Langerak, 2001; Kibbeling et al., 2013). Other researchers oriented their studies to understand the mediating role of SCM in the relationship between market orientation and organizational performance (Min et al., 2007; Green et al., 2006). In addition, the role of supply chain management in leveraging a firm´s market orientation has been also studied (Martin & Grbac, 2003; Jütner et al., 2010; Liu, Ke, Wei & Hua, 2013).

In the few relationships established between MO and SCM, the studies reinforce the importance of supply chain management and/or its integrating concepts, that is, supply chain orientation and supply chain management (Min et al., 2007), but do not explore specific aspects such as supply chain integration (SCI) (Liu et al., 2013). SCI is oriented to coordinating intra- and inter-organizational information flows by means of adopting information technologies (Kim, 2006) and can integrate a SCM perspective in firms (Min et al., 2007).

Considering that the flow of information in the supply chain facilitates intra and inter-firm integration and that this flow is facilitated by MO (Martin & Grbac, 2003; Liu et al., 2013), exploring the practices of supply chain integration and their relationship to market orientation seems to be a natural route in this process. This is specifically important if we consider that market oriented firms are able to respond better to the requirements of their customers through the information obtained from the market and shared within the firm in a coordinated manner (Kohli & Jaworski, 1990; Narver & Slater, 1990).

Liu et al. (2013) studied the effect of SCI and two dimensions of market orientation, i.e. customer and competitor orientation on performance in large and SMEs firms. In their research model, both dimensions of MO moderate the relationship between SCI and performance. However, the referred authors did not explore the entire MO construct in this relationship and did not considered the opposite side, i.e., how MO can leverage SCI and how can both improve firm performance. Evidence is needed on this perspective, since MO helps the firm to produce and store market information needed to build and maintain collaborative relationships with other firms in the supply chain (Min et al., 2007). Likewise, there is even less research dedicated to deepen knowledge of the relationships between the two themes and the performance of firms in specific contexts of analysis, as it is in the case of SMEs, and specific countries as well.

Studying MOSCI-performance relationships in different contexts and countries should report different results and help the understanding of MO formation in firms (Langerak, 2003; Ellis, 2007). This can also help the understanding of the practice and structure of SCM in a specific context, i.e. country (Chow et al., 2008).

To summarize, the MO-SCM-Performance relationship was not sufficiently explored in prior studies, and even less studies refer specific concepts of SCM, i.e. supply chain integration in this relationship. Furthermore, little is known about this relationship in SMEs and in developing countries as it is in the case of Chile.

Based on these considerations, this study tries to fill a part of this research gap by examining the mediating role of supply chain integration in the MO-Performance relationship. Following previous studies in a supply chain-market orientation relationship context (Min et al, 2007; Green et al, 2006; Kibbeling et al., 2013; Liu et al., 2013; Martin & Grbac, 2003; Jütner et al., 2010; Siguaw et al, 1998; Langerak, 2001), we focus on a specific SME context for analysis in Chile, South America. Therefore, the objective of this work is to verify the role of SCI in the MO-Performance relationship in Chilean SMEs.

Specifically, SMEs are an interesting context of analysis as they are considered inherently vulnerable in the reliance on SCM partners for relation-based rents (Arend & Wisner, 2005) instead of obtaining advantage through relationships between customers and suppliers in the supply chain (Bordonaba-Juste & Cambra-Fierro, 2009). Thus, SMEs can take advantage of both MO and SCI activities to compensate for their vulnerabilities in the supply chain. In this sense, studying this group of firms can generate insights in terms of the balance that SMEs can obtain between both perspectives and how this can improve their organizational performance.

Chile also offer an interesting context for the study due to its macroeconomic profile. The country occupies first place among the countries of Latin America and the Caribbean in the global competitiveness ranking of the World Economic Forum (2013). Sustainable economic growth, commercial openness, macroeconomic stability, institutional efficiency and transparency are some of the aspects that justify Chile's leadership in the region (World Economic Forum, 2013). Additionally, the country's openness index indicates that Chile has an exposure level of 70 percent to international trade (Milesi, Moori, Robert, & Yoguel, 2007), which can be translated into greater competitiveness for its domestic industry. As for SMEs, they contribute a total of 13 percent of the country's gross domestic product (GDP) and provide 38 percent of the total employment according to the 2006 data from the National Institute of Statistics (Instituto Nacional de Estadística [INE], 2008). In the northern region of Chile, SMEs contribute 7.4 percent of the GDP of the district of Antofagasta, where the study was conducted.

The article proceeds in the following manner. In the next section, we present the theoretical framework and the study hypotheses of the research, followed by the methodology used. Subsequently, we present the analysis and discussion of the results found and finally present the managerial implications based on the results and the limitations and future research directions.

2 CONCEPTUAL MODEL

The theoretical foundations for the relationships between market orientation, supply chain integration and organizational performance can be based on the configuration theory and the boundary theory.

According to the configuration theory, a configuration represents any multidimensional constellation of distinct attributes inside or outside the organization that occur together within an unifying theme (Meyer, Tsui, & Hinings, 1993). Configurations are generated by exogenous organizational forces, e.g. environmental selection for competitive fitness, and by endogenous pressures towards uniform configurations, e.g. functional relationships among organizational components (Meyer et al., 1993). Hence, the configuration approach involves identifying dominant gestalts or configurations of observable characteristics or behaviors that may lead to a particular performance outcome (Ward, Bickford, & Leong, 1996; Ketchen, Thomas, & Snow, 1993). As Hambrick (1984) notes, these gestalts clarify how strategic attributes work in combinations and often indicate an entire group of strategies that is associated with high performance in a given setting.

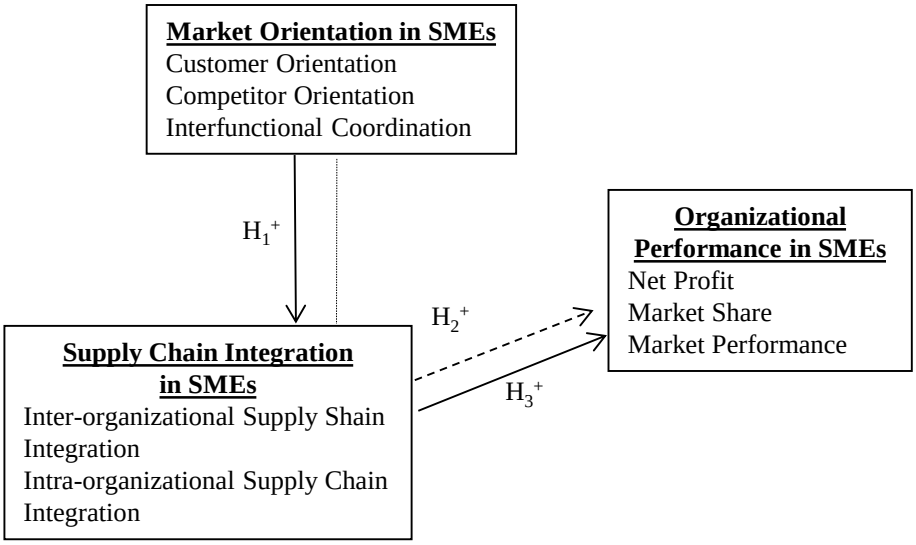
The boundary theory involves the discussion about boundaries and boundary roles. The former are a defining characteristic of organizations. The last ones are the link between the environment and the organization concerning resource acquisition and disposal (Aldrich & Herker, 1977). The boundary theory confirms the importance of the environment as a contingency factor and identifies boundary-spanning activities (Jemison, 1984). These activities link the organization with its environment and are related with a better organizational performance (Dollinger, 1984). They are commonly considered in relation with suppliers and/or customers in the marketing literature (e.g. Stock, 2006; Singh, 1998; Stock & Zacharias, 2011).

Both configuration and boundary theories contribute to this study: the configuration theory indicates the need to consider organizational arrangements, i.e. configurations, in order to obtain high performance. We consider the combination of MO and SCM resources as a configuration of organizational resources in order to obtain better performance. The boundary theory relates the links that are established between environment and organizations through boundary-spanning activities in order to acquire resources and disposal. MO and SCM present some boundary-spanning activities as they combine external and internal resources in their development. Both theories indicate implications for organizational performance that are applied in this study to develop

hypotheses about the relationship between MO and SCM activities, i.e. supply chain integration, and their impact on performance.

The test model of this research (Figure 1) comprises three constructs: market orientation, supply chain integration, and organizational performance.

Figure 1: Test Model



Market orientation is composed of customer orientation, competitor orientation and interfunctional coordination (Narver & Slater, 1990). Supply chain integration comprises practices of supply chain integration by means of the use of information technology (IT) both within firms and between firms (Kim, 2006; Bayraktar et al., 2010; Welker, Van der Vaart, & Van Donk, 2008). The organizational performance dimension considers net profit as a variable of financial performance (Kim, 2006), market share (Zhou, Yim & Tse., 2005) and market performance as measures of overall performance (Slater & Narver, 1994).

2.1 Market Orientation in a SME context

Market oriented firms respond better to the requirements of their customers through the information obtained from the market and shared within the firm in a coordinated manner (Kohli & Jaworski, 1990). This practice allows for improving business results, whether in the context of large enterprises (Slater & Narver, 1994; Jaworski & Kohli, 1993; Panigyrakis & Theodoridis, 2007; Menguc & Auh, 2006) or in SMEs (Pelham, 2000; Martin, Martin & Minillo, 2009). In this sense, MO is considered a unique and inimitable resource, which is able to conduct business to create superior value and competitive advantages (Hsieh, Tsai, & Wang, 2008; Hult, Ketchen, & Slater, 2005). The theoretical background of this argument is the resource-based view of the firm (RBV) (Wernerfelt, 1984). This argument is also related to the configuration and boundary theories in the same way as MO configures resources in order to contribute to better organizational performance and combines external and internal resources for developing its activities.

For SMEs, MO can mean better abilities to compete with large companies in industries with high growth and high profit margins (Pelham, 2000). Furthermore, it helps SMEs in commodity industries that are characterized by low levels of market segmentation and little product variety (Pelham, 2000). Taking into account the possible homogeneity of products in commodity industries, MO is useful in the search for differentiation (Verhees & Meulenberg, 2004) based on the ability of SMEs to approach their customers and generate knowledge about the market. This ability arises from the capacity for adjustment and the facility to change, that are characteristics of small businesses (Appiah-Adu & Singh, 1998). Likewise, MO in SMEs represents a rapid response to consumer dissatisfaction, the development of strategies based on the creation of value to the customers, immediate response to competitive challenges and rapid detection of changes in consumer preferences (Pelham, 2000). Equally, market oriented SMEs have internal processes of support to the consumer that involve the development of products made to measure for the client, which means encouraging incremental product innovation as the basis of the response to customers (Golann, 2006). In addition, MO is an important facilitator of flexible planning in SMEs, as well as improving the performance of enterprises in dynamic environments (Alpkan, Yilmaz & Kaya, 2007). In fact, the more market-oriented SMEs are, the more they are able to adjust themselves to these environments (Didonet, Simmons, Díaz-Villavicencio, & Palmer, 2012).

2.2 Supply Chain Integration in SMEs

The supply chain literature has explored a group of concepts related with supply chain management, i.e. supply chain orientation, supply chain management, and supply chain integration (e.g. Min et al., 2007; Kim, 2006; Liu et al., 2013). Supply chain management represents cooperative actions with other firms based on multilateral efforts to manage supply chain processes (Min et al., 2007); supply chain orientation is a unilateral policy of the firm based on interactions with supply chain partners (Min et al. 2007; Schulze-Ehlers, Steffen, Bush, & Spiller, 2014); supply chain integration refers to the degree to which a firm coordinates intra- and inter-organizational processes with channel partners in a collaborative way (Liu et al., 2013; Kim, 2006). Essentially, supply chain integration is associated with firm information sharing and operational coordination with channel partners and the degree to which partners are provided with information that might help them (Liu et al., 2013).

The central argument of SCI is that all of the individual organizations that comprise the supply chain should be managed as a single entity – a complete system (Li, Zhao, Tan, & Liu., 2008). The theoretical foundation for this argument can be the value chain model, which refers the linkages within firm's value chain and the linkages among the firms in the value chain (Porter, 1980). In addition, this argument can be based on configuration and boundary theories considering that SCI represents value chain activities which are oriented to generate better firm performance and also combines external and internal resources in doing so.

The supply chain integration contributes not only to improve partner-related routines and processes through collaboration but also to respond to technological and market changes (Rosenzweig, 2009). In doing so, SCI can improve organizational performance either in large or small firms (Li et al., 2008; Liu et al., 2013; Frohlich & Westbrook, 2001; Kim, 2009; Bayraktar et al., 2010). In the context of SMEs, the SCI activities – e.g. information sharing and operational coordination - are also positively related with innovation activities (Redoli, Mompó, García-Díez & López-Coronado, 2008; Drayse, 2011; Didonet & Díaz, 2012) and market orientation perspective (e.g. Liu et al., 2013; Martin & Grbac, 2003).

3 HYPOTHESES

3.1 The Relationship between Market Orientation and Supply Chain Integration in SMEs

Discussing the supply chain risk management literature, Singhal, Agarwal and Mittal (2011) suggested that market orientation factors such as customer expectations, market fluctuations, competitor moves, etc, are significant to characterize the risk issues in a supply chain. MO can also affect business performance by influencing its supply chain management (Min et al., 2007).

The Martin and Grbac (2003) research findings suggest that sharing information among the different functional areas of the firm is a meeting point between market orientation and supply chain relationships in SMEs (Martin & Grbac, 2003). According to the authors, "customer and supplier-oriented information help to build strong supplier relationships because different functional areas of the firm are given market information" (Martin & Grbac, 2003, p.34). As Murray, Gao & Kotabe (2011) evidenced in their study, high levels of within-organizational communication of different functions create the appropriate environment for market orientation activities to be performed more effectively (Murray et al., 2011) which could contribute to better supply chain performance. Davis and Golicic (2010) research findings also revealed that the firm´s ability to deploy an information technology infrastructure in support of the market orientation activities contribute to a comparative advantage in supply chain relationships.

Furthermore, Liu et al. (2013) research findings in SMEs and large firms revealed that supply chain integration is improved by customer orientation and competitor orientation, which are both dimensions of market orientation. This occurs because SCI enables firms to obtain knowledge to serve better customers from its supply chain partners (Liu et al., 2013). According to the authors, "the firm with customer orientation perceives the value of SCI and exerts effort in leveraging SCI to enhance its operational efficiency and effectiveness" (Liu et al., 2013, p.329). Thus, we hypothesized:

H1: MO directly and positively influences SCI in SMEs.

3.2 Market Orientation, Supply Chain Integration and Performance in SMEs

Lado, Paulraj and Chen (2011) research findings revealed positive associations among customer services, financial performance, relational capabilities, and focus on the customer (one of the dimensions of MO) in medium and large firms. The focus on the customer positively impacts on supply chain relational capabilities and customer service (Lado et al., 2011; Zhou, Brown & Dev, 2009). Likewise, supply chain relational capabilities have a positive relation with customer service, and the latter in turn positively affects the financial performance of firms (Lado et al., 2011).

The results of the research by Min et al. (2007) indicated that MO-firm performance is mediated by supply chain orientation (one SCM dimension). Green et al. (2006) observed a positive support for the path MO-SCM-Performance in their study. Exploring two different dimensions of organizational performance, i.e., marketing

performance and financial performance, the authors found that supply chain management strategy mediate the impact of MO on marketing performance (Green et al., 2006).

Liu et al. (2013) suggest that customer orientation is an important activator in the influencing processes of SCI on organizational performance in SMEs. As indicated in the findings of the authors, the greater the customer and competitor orientations, the stronger the relationship between SCI and SMEs performance is (Liu et al., 2013). Considering that customer and competitor orientations are sometimes encompass in the composite construct of market orientation (Narver & Slater, 1990), we hypothesized:

H2: SMEs MO indirectly and positively influences the organizational performance of SMEs via SCI.

3.3 Supply Chain Integration and Performance in SMEs

The results of the study by Martin and Grbac (2003) evidenced that stronger supplier relationships are directly and positively associated to higher performance of SMEs. Findings from Min et al. (2007) indicated that SCM is positively associated to performance when MO and supply chain orientation are not involved in the relationship.

In particular, Liu et al. (2013) examined two dimensions of supply chain integration, i.e. operational coordination and information sharing, in SMEs and found that the operational coordination has a positive relationship with business performance. Information sharing, in turn, has a positive influence in operational performance (Liu et al., 2013). Thus, we hypothesized:

H3: Supply chain integration positively influences the organizational performance among SMEs

4 METHODOLOGY

4.1 Sampling and Data Collection

The data used in this study were taken from the database of the project 'Demography of the Regional Small and Medium size Enterprises', undertaken by researchers at the Entrepreneurship and SME Center at Universidad Católica del Norte, Chile. The current database employs a sample of 550 micro and small to medium-sized companies in the district of Antofagasta, northern Chile. The criterion adopted for the definition of SME was the sales volume of each company, according to the government criterion in Chile. In accordance with this criterion, a SME has an annual sales volume of no less than US$ 104,375.00, and no more than US$ 4,348,980.00 (reference values in Chilean pesos, the national currency, converted to US dollars according to the exchange rate of 15th July, 2014). Considering this criterion and excluding micro firms and missing values, a sample of 327 SMEs was considered valid for this study. Of the 327 SMEs researched, 270 were small enterprises (82.6%) and 57 corresponded to the category of medium sized enterprises (17.4% of the total).

The data was collected between September 2009 and August 2010 via a cross-sectional survey. The questionnaires were administered by a team of interviewers via personal interviews with directors or owners of SMEs. Once they completed the questionnaire component, the project coordinator followed up the work of the interviewers by randomly selecting and then telephoning some of the businesses to confirm the data obtained. This procedure ensured control over the work carried out and guaranteed the reliability of the information.

4.2 Variables and Measurement Model

As shown in Figure 1, three constructs were considered in the measurement model: market orientation, supply chain integration, organizational performance. The variables of market orientation correspond to the three dimensions of the construct defined by Narver and Slater (1990), that is, customer orientation, competitor orientation and interfunctional coordination. The variables of SCI include intra- and inter-organizational practices associated with the flow of products and information in the supply chain, and developed with the contribution of information technology (Kim, 2006; Bayraktar et al., 2010). The variables associated with performance include net profit as a measurement of financial performance (Kim, 2006), and market share (Zhou et al., 2005) and market performance as measures of overall performance. Market performance was measured as the evaluation of the owner of the firm over the position of the firm in the market in relation to the competition (Slater & Narver, 1994).

The variables of the Supply Chain Integration were originally measured in a continuous scale of seven points, ranging between the extremes of ‘never’ and ‘always’. Redoli et al. (2008) and Li et al. (2008) use a similar approach to carry out their research in similar themes. Respondents were asked to indicate the intensity of integration in the supply chain, at one extreme ‘1’ being considered “I never use IT for post sales service” and at other, ‘7’ being considered “I always use IT for post sales service”. The respondents could mark any point in the scale.

The same continuous scale was used for measuring market orientation variables. However, the extremes of ‘strongly disagree’ and ‘strongly agree’ were the range used in this case.

A four-point scale was used for the variables of performance that considered the response options: 0 = don't know; 1 = has decreased; 2 = has stayed the same; 3 = has increased. For example, the respondents were asked to indicated the market share of their firm in the last two year, at one extreme '0', 'don't know the situation of the market share of my firm' and at the other extreme, 'the market share of my firm has increased'.

5 ANALYSIS AND RESULTS

Confirmatory factor analysis (CFA) (using AMOS 18 software) was used to verify the relationship among market orientation, supply chain integration and performance in SMEs, after verifying the reliability of the scale with Cronbach's alpha (MO = .79; SCI = .69; PERF = .82). In this previous analysis of the data, the variable 'market performance' was discarded from the organizational performance dimension due to the low alpha of the construct. The final Cronbach's alpha result is now acceptable for further analysis, in particular when considering reflective constructs as it is the case of this research (Petter, Straub, & Rai, 2007).

In addition, correlations among the observed variables were verified. The results showed three correlations between 0.6 and 0.73 and nothing higher than 0.73, which can be considered reasonable for subsequent analysis (Lin & Chen, 2005).

Second order factors were considered for the MO and SCI constructs. They were previously defined based on the literature and ratified by an exploratory factorial analysis. This is appropriate when the latent variables are formed by a large number of indicators (Bagozzi & Yi, 2012). Thus, market orientation was represented by the dimensions customer orientation, competition orientation and inter-functional coordination. SCI was represented by the dimensions intra-organizational supply chain integration and inter-organizational supply chain integration. Convergent and discriminant validities were verified by comparing the models, as indicated by Widaman (1985) and Byrne (2010) in such case. Model 0 was defined by individual items as a unique factor in a construct. For model 1, individual items were loaded on 1 first order factor. Model 2 was defined by individual items loaded on any one of the appropriate first order factors that, in turn, are loaded on the second order factor. The significant improvements in adjusting model 0 for model 1 confirmed the convergent validity, and the improvements in adjusting model 1 for model 2 confirmed the discriminant validity of the three constructs (Widaman, 1985). Results for convergent and discriminant validity tests are shown in Table 1.

Table 1.Model comparisons for convergent and discriminant validity tests

	Chi-sq	**Df**	**Diff Chi-sq**	**Df-diff**	**RMSEA**	**p-close**	**CAIC**	**CFI**
Model 0	2278.2	231			0.165	<0.001	2427.6	0.000
Model 1	1049.3	207	1228.9	24	0.112	<0.001	1361.7	0.589
Model 2	461.0	201	588.3	6	0.063	0.003	814.08	0.873

Once the validity of the proposed model was tested, adjustments were made to the dimensions of the constructs to ensure statistical significance. Four variables were eliminated in the client orientation dimension with the market orientation construct, owing to the low statistical significance in the confirmatory analysis. Rhee, Park and Lee (2010) made a similar treatment for the variables of the MO construct, considering the adjustment of the scale to the specific context of the analysis and different sizes of enterprises. Likewise, one variable was eliminated from the supply chain intra-organizational construct.

5.1 Common Method Bias

A common method bias may occur considering the fact that all the measures of the constructs were collected from the same source (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). This potential problem was checked with the Harman one-factor test (Podsakoff & Organ, 1986). A factor analysis of focal variables resulted in the six focal factors with eigen values greater than 1, which accounted for 58.9% of the total variance. The first factor accounted for 19.6% of the variance. Because a single factor did not emerge and factor 1 did not explain most of the variance, common method bias is unlikely to be a concern in the data.

We also examined the data for empirical evidence of common method bias by applying the single-common-method-factors approach, as recommended by Podsakoff et al. (2003, p.898). We conducted a CFA which included a construct representing an unmeasured methods factor. Each variable was specified to load onto this factor in addition to its theoretical construct. The results showed all item loading significantly on its intended theoretical construct, with no load in the unmeasured methods factor, excepting two items that represent the MO construct. Despite this potential problem, we decided to maintain both MO variables in the SEM model. In doing so, we established a correlation between them, which allowed a good fit of the model. Overall, the item loadings were substantially higher on their intended construct than on the unmeasured methods factor and we can conclude that common method bias does not appear to be a problem in the study.

5.2 Results and Discussion

Taking MO and SCI into account as second order factors and PERF as a first order factor, the model with final adjustments showed good adjustment indices (Bagozzi & Yi, 2012). The relationships were calculated considering the direct and indirect effects among the constructs.

Table 2 exhibit the overall results for relationships established in Figure 1, including the adjustment indices of the model.

Hypothesis	Relationship					Total Effect	Direct Effect	Indirect Effect	Hypothesis
H1	MO	--->	SCI			.338***	.338***		Supported
H2	MO	--->	SCI	--->	PERF	.053**		.053**	Supported
H3	SCI	--->	PERF			.157*	.157*		Supported
GFI = .918 CFI = .921 RMSEA = .056 PCLOSE > .05									

*Note: ***p<.01; **p<.05; *p<.10*

Based on the results noted in Table 2 (standardized coefficients), market orientation significantly and positively influences supply chain integration. The p-value of .01 and the positive coefficient of .336 confirm this influence, which leads to accepting H1. Min et al. (2007), Zelbst, Green, Abshire, and Sower (2010), Green et al (2006) and Martin and Grbac (2003) found similar results on the relationship between MO and supply chain management, showing that MO positively affects supply chain management and actions and practices related to it.

Considering the initial assumption that MO indirectly and positively affects performance via SCI, the results allow us to accept H2. However, although the p-value = .05 confirms a high significance for the relationship, the coefficient reveals a low indirect influence of MO on performance. Taking into account this low result, we tested the mediating role of SCI in the MO-Performance relationship as indicated by Baron and Kenny (1986). According authors, some conditions must hold to prove the mediating role of a variable in a model: the independent variable must affect the mediator; the independent variable must affect the dependent variable; and, the mediator must affect the dependent variable (Baron and Kenny, 1986). This means that; market orientation (the independent variable in the model) must influence SCI (the mediator) and performance (the dependent variable). Also, SCI must affect performance. Following these considerations, we tested the influence of MO on Performance. The result revealed a null direct relationship between both constructs as well, which can partially explained the low coefficient verified in H2. The non-impact of MO on SMEs performance corroborates prior SMEs studies on the theme (see Laukkanen, Nagy, Hirvonen, Reijonen, & Pasanen, 2013; Eggers, Kraus, Hughes, Laraway, & Snycerski, 2013). This result is somewhat unexpected considering the importance of MO to firm performance although some inconsistencies in this relationship has been reported in previous studies (see Raju et al., 2011; Liao et al., 2011; Langerak, 2003). However, our result attests the importance of MO in influencing performance through mediating variables. This finding gives support to Demirbag, Koh, Tatoglu, and Zaim (2006) and Keskin (2006) research findings, which reported a non-direct impact of MO on SME performance but revealed a positive indirect MO-SME performance relationship when the analysis included total quality management implementation, firm innovativeness, and learning orientation as mediating variables. Moreover, the relatively low impact of SCI in PERF is another aspect that can influence this result. Thus, based on Baron and Kenny (1986) assumptions, the mediating role of SCI in the MO-Performance relationship cannot be proved in the model.

In regard to the H3, result of this study reveals that supply chain integration influences the performance of SMEs and leads to accept H3. Despite positive relationship between constructs, the only marginal significance of the SCI-performance path (p<.10) leads to be cautious in making claims based on this result and calls for the need of further investigation. Furthermore, the coefficient of 0.157 shows the relatively low intensity of influence. Based on this result, we could suppose that this weak relationship reveals the incipience of the SCM practices in the studied SMEs (Didonet & Díaz, 2012) and the consequent difficulty of SMEs in understanding and benefitting from the broad proposal of SCM (Arend & Wisner, 2005). As noted by Didonet and Díaz (2012, p. 105), Chilean SMEs present deficiencies in their integration in SCM which "can raise difficulties in the exchange of technology and be resulting in poorer performances than what can potentially be expected." The result of this study corroborates this assumption. In general, SCM literature reveals SMEs difficulties in adopting information technologies (IT) which are the base of sharing information in the SCI (Stefansson, 2002; Eagan, Clancy, & O'Toole, 2003; Bayraktar et al., 2009). The result can be the loss of competitiveness by SMEs and, consequently, poor performance (Kauremaa, Karkkainen, & Ala-Risku, 2009). Independent of this specific context, the finding is an attempt to indicate the importance of integrating the supply chain for the firm performance as revealed in previous studies (Min et al., 2007; Green et al., 2006).

6 CONCLUSIONS

This study provides empirical evidence regarding the importance of supply chain integration in the relationship between market orientation and performance in SMEs. This research extends MO and SCM literature in SMEs, as it explore a specific dimension of SCM, i.e. supply chain integration, in the MO-Performance relationship. Supply chain integration was related to inter- and intra-organizational activities of information sharing in supply chain. Findings revealed that greater market orientation leads to a stronger supply chain integration in SMEs. Likewise, supply chain integration has a direct and positive impact on SMEs organizational performance. Furthermore, market orientation indirectly and positively influences organizational performance in SMEs through supply chain integration.

The current research contributes to theory building in terms of highlighting the importance of supply chain integration in the relationship between market orientation and organizational performance in SMEs. This adds knowledge about how MO affects business performance, one perspective that is still inconclusive in the literature (Langerak, 2003; Raju et al., 2011; Liu et al., 2011). Specifically, this research infers that market orientation indirectly affects SMEs performance through supply chain integration. This is consistent with previous empirical results which revealed that, in the specific context of SMEs, the performance is improved by a combination of MO and other intermediate variables (Demirbag et al., 2006; Keskin, 2006).

6.1 Research Implications

This study contributes to and complements previous ones (Min et al., 2007; Jüttner et al., 2010; Ellis, 2007; Zelbst et al., 2010; Green et al., 2006; Martin & Grbac, 2003; Lado et al., 2011; Liu et al., 2013) from various perspectives.

Firstly, we responded to recent discussions about the need to integrate marketing and supply chain strategies to generate higher value for the customer (Kibbeling et al., 2013; Green et al., 2006; Jüttner et al., 2010; Min et al., 2007; Jraisat, 2011). The findings of this study confirm that MO could be a way to obtain better business performance via integration of other practices beyond the limits of the firm, as in the case of supply chain integration. The generation of information in market oriented SMEs favors the integration of firms with their customers and suppliers and the integration of internal functions associated with the flow of products. This is in line with the perspective of MO as a strategic orientation that help firms to understand customers' needs (Lamberti & Paladino, 2013). The understanding of these needs implies to share information among supply chain partners - including the customers - which is one of the most important aspects of supply chain management (Hsu, Kannan, Tan & Leong, 2008).

Furthermore, the MO-SCI relationship allows the connection of firms in a supply chain and to orient themselves to the customer´s needs and, consequently, to obtain better organizational performance. Thus, the SCI is one way for understanding the role of MO beyond the limits of the firm, and some mechanisms that improve the MO-Performance relationship. Considering that market orientation cannot be considered separately from inter-organizational relationships (Webster, 1992), SCI could be a value-creating activity that helps firms to respond the customer needs and consequently achieve better performance (Kibbeling et al., 2013; Green et al., 2012).

Secondly, this research contributes to previous studies about MO-Performance relationship by examining the role of supply chain integration in this context. It helps the understanding of "how" MO influences performance in organizations. As Langerak (2003, p. 459) pointed out, "the inconsistencies in studies looking for if (i.e. direct effect) and when (i.e. moderating effect) market orientation has positive effects on business performance induced researchers to examine how (i.e. mediating effect) market orientation influences business performance". In regard to this, the strong relationship between MO and SCI leads one to assume that MO moves beyond the boundaries of an individual firm through the information flow (that is the base of SCI). Otherwise, instead of the positive indirect effect of MO on performance through SCI, the mediating role of SCI in MO-performance relationship could was not proved in the studied SMEs.

Finally, this study reveals a specific context of analysis, whose market conditions and political and legal context contribute to understanding the results of the null relationship between MO and performance. According to Ellis (2007), market orientation is affected by the location of the firm, that is, the firm's geographic context can be favorable or unfavorable to its market orientation initiatives, which in turn can affect its performance. In the case of the studied SMEs, located in Chile, a country with a small domestic economy and with an important level of openness to international markets (Milesi et al., 2007), possibly evidence these weaknesses in terms of the market orientation-performance relationship.

6.2 Practical Implications

The results of this study reveal implications for SMEs in terms of the relationship between supply chain and market orientation, as well as having some implications for public policies.

In the case of SMEs, market orientation can be an important aspect to facilitate the integration into the supply chain. Considering the difficulties of SMEs in adopting information technologies that facilitate such

integration (Bayraktar et al., 2010) and the difficulty in understanding and benefitting from the broad proposal of supply chain management (Arend & Wisner, 2005), the decision to strengthen market orientation can facilitate information flows within and among firms, which finally contributes to improve firm performance.

In the public sphere, this study contributes to the definition and implementation of policies that strengthen SMEs. Essentially, the contribution lies in generating information in terms of SMEs associated with the adoption of strategies of integration with suppliers and customers and drawing closer to customers by means of market orientation. In terms of supply chain integration strategies, a basic element of the process is adopting information technologies that facilitate the flow of information among the agents. Information technologies oriented to supply chain management and market orientation strategies can contribute to better performance of SMEs and enhance their market competitiveness and innovation initiatives (Didonet & Díaz, 2012). As a result, public policies that foster the adoption of information technologies among SMEs to strengthen with customers and suppliers can be an important means to increase the competitiveness of firms, as can policies to train firms in relation to strategies to draw closer to customers.

6.3 Research Limitations

Highlighting the contributions to this research evidences the limits of the study and the potential areas for future research on the topic. For example, this study did not consider the effect of external variables that possibly intervene in the relationship between market orientation and performance, as is the case of the context of the studied firms. Following the proposal of Ellis (2007), variables such as dependence on external markets and the diversity of markets contributes to there being a null relationship between market orientation and performance. These aspects could be considered in future studies as a better way to understand this relationship.

Another limitation of the study is that it did not explore the inter-relationships among the dimensions of market orientation and the impact of these on the considered variables. As the study of Tsiotsou (2010) showed, the dimensions of MO affect performance in different ways. Future studies could explore this aspect in the proposed relationship, which could improve understanding of the phenomenon of MO. Finally, the present study did not consider the impacts of the relationship between market orientation and supply chain management in the value for the client. This should be a natural consequence of the relationship (Jüttner et al., 2010), which should be further explored in future studies.

Also, the SCI scale measures ideally ought to have been corroborated with data from supply chain partners, since the construct is about how integrated the firm is at the supply chain level. We are not able to perform this corroboration in this study. Thus, this is an important aspect that should be considered in future studies or in replications of the current study.

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