Impact of Supplier Management Strategies on the Organizational Performance of ISO 9001 Certified Organizations

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ABSTRACT

Purpose: The purpose of this article is to discuss the impact of Supplier orientation and the resulting Supply Chain Management (SCM) approach, on the organizational performance of ISO 9001 Quality Management Systems certified organizations.

Methodology/Approach: Following a literature review, a full structural conceptual model was proposed. An online survey was administered to managers of Portuguese organizations with certified ISO 9001 Quality Management Systems. Descriptive Statistics and Structural Model Equations were used to validate the proposed conceptual model.

Findings: There are positive relationships between Organization Strategy and Supplier Orientation, between Supplier Orientation and Stakeholders Satisfaction, and between Stakeholders Satisfaction and Organizational Performance Orientation, supporting ISO 9001:2015. These findings provide insights that supplier orientation, mediated by stakeholder satisfaction, is an essential tool for organizational competitive sustainable advantage.

Research Limitation/implication: The analysis was based on managers of ISO 9001 certified organizations perceptions, so additional studies with actual data and longitudinal studies should be useful for further validation.

Originality/Value of paper: The importance of the overall organizational ecosystem is highlighted with potential impact on the more than 1 Million ISO 9001 organizations certified worldwide and in their suppliers.

Category: Research paper.

Keywords: Quality management; ISO 9001; supplier management; stakeholder satisfaction; organizational performance

1 INTRODUCTION

1.1 Quality management and ISO 9001

The ISO 9001 International Standards Series were first published by ISO© (ISO, 2014) back in 1987 as a key tool to allow for the growing internationalization of business and the need for common quality management system standards (Fonseca, 2015). They focused on customer/supplier relationships and aimed to customer satisfaction by providing conforming products and fostering continuous improvement. ISO 9001 standard has achieved great international visibility with more than 1 Million Organizations with ISO 9001 certified Quality Management Systems (QMS) all over the world accordingly to ISO Survey 2013 (ISO, 2014):

Scientific studies (Boiral, 2012) have linked the success in the implementation of ISO 9001 QMS to the organization motivations (most significant results when the motivations are internal rather than external) and to the way the standard is interpreted and implemented (Fonseca, 2015). Also for Tarí, Molina-Azorín and Heras (2012) after a meta-review of 82 studies, the three benefits most frequently analyzed by researchers were: improved efficiency, improved customer satisfaction and improvements in relations with employees. These were followed by profitability and improved systematization. Accordingly to Yin and Schmeidler (2009) standardized management systems may be implemented in very different ways depending on organizations, which might explain the heterogeneous performance of these standardized systems (Fonseca, 2015). They stressed that the studies of the impacts of ISO 9001 certification have largely neglected this phenomenon.

ISO has a Directive governing the publication of standards (to be reviewed every 5 years). The ISO 9001:2008 revision process started by ISO/TC 176 aims to assure that ISO 9001:2015 standard reflects the changes of an increasingly complex, demanding and dynamic environment and remains stable for the next 10 years (Croft, 2012). It should have major benefits for Quality Management Systems with less emphasis on documentation and new/reinforced approaches. These latter include consideration of organizational context and (relevant) stakeholders, risk-based thinking and knowledge management. Organizations should engage on stronger partnerships with its key stakeholders with suppliers being on the forefront (Fonseca, 2015a).

1.2 Supplier chain management

Worldwide, there were considerable changes in the last decades with increased mobility and access to information and a growing economic and financial interdependence. Supply Chain Management (SCM) come to life in the early 1980s to describe the range of activities coordinated by an organization to procure and manage supplies (Oliver and Webber, 1982). Initially, SCM focused on logistics (Gilmour, 1999) and can be seen as an ‘‘umbrella construct’’ that has been described as supplier integration and partnerships (Tan, Lyman and Wisner,

2002), network sourcing and value chain management (Croom, Romano and Giannakis, 2000; Romano and Vinelli, 2001), integrated logistics management (Romano and Vinelli, 2001) and as a demand chain (Kotzab and Otto, 2004). The modern approaches to SCM focus on the interdependence of organizations working in a collaborative way to improve the efficiency of the global logistics channel (Shin, Collier and Wilson, 2000; Narasimhan and Kim, 2002). This extended scope encourages synergy and cross-functional collaboration among all partners with the aim of achieving a more effective and efficient supply and the integration of customers, suppliers and manufacturers and other value chain actors, through all the firm functions. Following these initial concepts, Chopra and Meindl (2007), stated that "*A supply chain ...consists of all parties involved, directly or indirectly, in fulfilling a customer request"*.

With the almost endless choices that today's customers have, delays in supply mean delays for the customers who are probably not willing to wait when they can obtain the same or similar substitute product in another place. However, this is a two-way relationship as companies with QMS must have criteria's to choose and develop their suppliers.

The selection of suppliers based on price has been a traditional approach in SCM. However, the practice of a large amount of suppliers competing against each other and choose the one with the lowest acquisition cost can lead to higher cost within the full life cycle of the product (Chen and Yang 2002). This is due to internal and external failures costs, resulting in customer dissatisfactions and increased warranty and complaint costs. A relationship between customers and supplier does not depend only in costs but also on product quality, delivery and flexibility and low-cost supply chains are often unable to respond to unexpected changes in demand or supply, due to their scale economies (Lee, 2004).

SCM has become an important and critical aspect for the sustainable success of any organization and more recent researchers consider SCM as providing a shared vision that focuses everyone in an organization on product, production and quality improvements that are required both by the market and the need for companies to survive (Lee, 2004; Agus, 2011). Supply chain management should be regarded not as just as procurement but rather as a strategy with the purpose of achieving enduring beneficial buyer–supplier relationships (Carr and Pearson, 1999). One of the most important SCM approaches is strategic supply management (SSM), which is a long-term, planned effort to create a capable supplier base and leverage the benefit of supply management (Carr and Pearson, 1999; Shin, Collier and Wilson, 2000; Chen, Paulraj and Lado, 2004). Organizations adopting SSM evolve to manage a limited number of high-quality suppliers making supply management a key strategic planning process (Chen, Paulraj and Lado, 2004).

1.3 Quality Management and Supplier Chain Management

Under their more recent definitions, both Quality Management (QM) and Supplier Chain Management (SCM) can be regarded as management approaches aiming for customer satisfaction and organizational effectiveness and success. QM originated and evolved from quality inspection while SCM as it origin on logistics. Both QM and SCM aim for continuous improvement and increased maturity levels and an internal and external integration (Vanichchinchai and Igel, 2009). While for some authors (Vanichchinchai and Igel, 2009) QM focus is more internal (management and employees) and SCM more external (suppliers and customers), other authors (Singh, Power and Chuong, 2011) have demonstrated that ISO 9000 does provide a mechanism to facilitate resource exchanges between trading partners. The relationship between SCM and QM is evident on the Quality Management Principle of the ISO 9000 series of standards and will be reinforced on the ISO 9001:2015 edition (Fonseca, 2015a):

- ISO 9000:2000 and 2008 series (Mutually Beneficial Supplier Relationships): An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value.

- ISO 9001:2015 (Relationship Management): The effective engagement of interested parties such as suppliers who can impact the performance and reputation of an organization is vital for enduring success.

- Accordingly to Lin et al. (2005) QM practices by being integrated in supplier participation programs provide the mutual collaboration, resulting in improved organizational performance that can be optimized when the organization considers its suppliers as important trading partners and members of their value chain (Stakeholders Theory Perspective). Thirumalai and Sinha (2005) advance that increased emphasis on supply chain management (SCM) has created the need for researchers to rethink the role of QM practice within the context of SCM. However, according to authors as Robinson and Malhotra (2005) and Lin et al (2005), the link between SCM and QM still deserves additional study to better understand their integration and connections.

A review of previous studies on the relationships between Supplier Chain Management (SCM) and Quality Management (QM) and the impacts of SCM on Organizational Performance has yielded the following results:

- Kuei et al. (2005), tested several hypotheses on the relationship between supply chain quality management (SCQM) and supply chain performance, with the conclusion that SCQM initiatives have a positive influence on firms customer service and product quality performance.

- Flynn and Flynn (2005) concluded that there is a relationship between quality management and SCM and organizations that pursue quality and supply chain goals simultaneously achieve a competitive advantage that is difficult to imitate.

- Casadesus and Castro (2005) stated that it is not possible to affirm that ISO 9000 implementation totally favors SCM strategies. However, they found areas like relationship with suppliers, customer satisfaction, and customer complaints, that have improved with ISO 9000 implementation.

- Lin et al. (2005) investigated the factors that influence SCQM in Taiwan and Hong Kong. Findings showed quality management practices are significantly correlated with supplier participation and selection strategy, which in turn influences business results.

- Li et al. (2006), tested with Structure Equation Model, the relationships between supplier chain management (SCM) practices, competitive advantage (CA), and organizational performance (OP). According to these authors, organizations with high levels of SCM practices have high levels of CA and OP.

- Yeung (2008), based on a quantitative and qualitative study of the Hong Kong electronics industry found that ISO 9000 serves as a foundation in purchasing management and that organizations that implement Quality Management (QM) induce Supplier Strategic Management (SSM). The study also concluded that SSM is positively associated with time-based and cost-related operational efficiency leading to customer satisfaction and superior business performance.

- Prajogo, Huo and Han (2012), empirically tested a model of different aspects of ISO 9000 implementation in terms of their relationships with three key supply chain management practices (internal processes, supplier relationships, and customer relationships). The findings showed if the level of ISO 9000 implementation is more intense the positive relation with the three key practices is higher. The results also indicated that supplier and internal process management both have a positive effect on operational performance.

As a conclusion, we can state that there is evidence suggesting positive relationships between Quality Management, Supply Chain Management, Competitive Advantage and Organizational Performance. However, the underlying relationships and connections still need further research.

2 THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

2.1 Introduction

Figure 1 presents the theoretical model developed for this research. The framework proposes that the Organization strategy and the External environment influence the Supplier orientation of the organization and that strong Supplier orientation leads to increased Stakeholder satisfaction that will result in better Organizational performance.

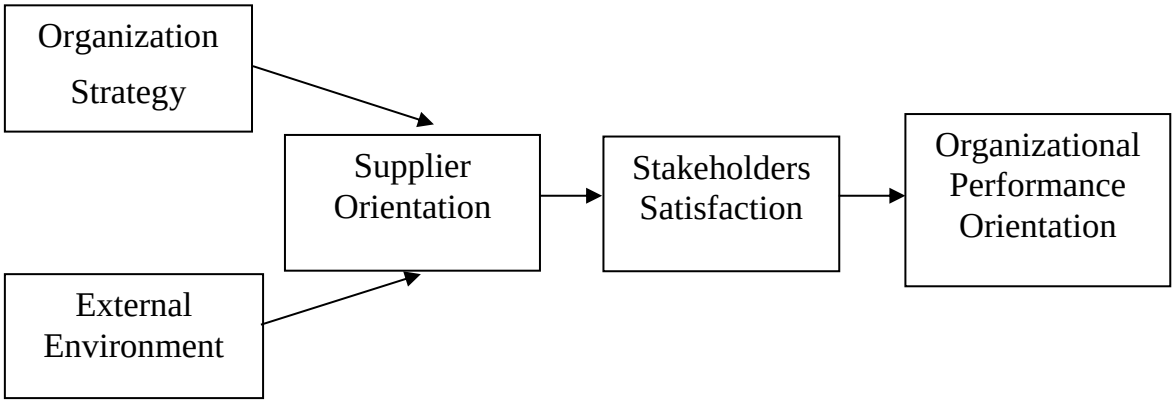

Figure 1 – Theoretical model

Three main strategic management theories were used as theoretical lenses to support the research (Fonseca, 2012):

- Stakeholder Theory by Freeman (1984) and McWilliams and Siegel (2001) focus on the importance of a firm's relationships with critical stakeholders, like suppliers, that may lead to better performance, as organizations by integrating stakeholder's expectations can create value for all stakeholders. This one of the main theories supporting the Quality and Supply Chain Management integration and mutually beneficial relationships.

- According to Porter (1980; 1985) Industry Structure and Market Basis Positioning Theory the external environment has the dominant influence on the strategic actions and performance of organizations. Supplier/Customer bargaining power and the danger of substitute products are some of the key factors that account for industries competitiveness and profitability accordingly to Porter.

- The Resource-Based View (RBV) of the firm by Barney (1991, 2001) and McWilliams and Siegel (2001) considers that if the organizational resources and capabilities of a firm are valuable, rare, inimitable and no substitutable, they will translate into competitive advantages that can in turn generate operational results and generate sustainable value. But in

order to achieve sustainable competitive advantage, an organization must assure the satisfaction of all relevant stakeholders. For the Resource-Based View of the Firm (RBV) it is the unique combination of resources and capabilities (internal) of each firm that allow it to be unique, different and with better performance than its competitors as should be the basis for its strategy and development.

2.2 Organization strategy construct

Organization strategy construct was operationalized with three observed variables: Focalization strategy, new product development strategy, and minimum cost strategy, building on Porter competitive strategies framework.

2.3 External environment construct

According to Porter (1980; 1985) Industry Structure and Market-Based Positioning Theory the external environment has the dominant influence on the strategic actions and performance of the organization. Supplier/Customer bargaining power and the danger of substitute products are some of the key factors that account for Industries competitiveness and profitability accordingly to Porter. Porter theories were therefore used as support for External environmental construct that was operationalized with five observed variables: Competitiveness level, the level of uncertainty, internal competition (domestic market) and external competition.

2.4 Suppliers orientation

Suppliers orientation was used as "umbrella construct" for Supply Chain Management and comprehends the intensity of the orientation towards suppliers of the organization and the extent to which Strategic Supply Management (SCM) practices are adopted. Supplier orientation was operationalized by four observed variables: Suppliers orientation (intensity of), best SSM practices, Suppliers management and Supplier management program.

The relationship between Quality Management, Supply Chain Management and organizational performance was highlighted by literature review (Kuei et al., 2005, Flynn and Flynn, 2005; Casadesus and Castro 2005; Lin et al., 2005; Li et al, 2006; Yeung, 2008; Singh, Power and Chuong, 2011; Prajogo, Huo and Han, 2012). It is also supported by the Resourced-Based View (RBV) of the firm by Barney (1991; 2001) and McWilliams and Siegel (2001).

For Flynn, Huo and Zhao (2010), Supply Chain Integration (SCI) is the degree to which a manufacturer strategically collaborates with its supply chain partners and collaboratively manages intra and inter-organizational processes, aiming for providing maximum value to the customer. According to these authors' research SCI is related to both operational and business performance. For Shin, Collier and Wilson (2000), Strategic Supply Management (SSM) is a source of strategic

advantage. SSM is a long term planned effort to create a capable supplier base and leverage the benefit of Supply Chain Management. SSM is a key element of an effective SCM by focusing on the mutual and long-term beneficial relationships with the few key suppliers.

2.5 Stakeholder orientation

The main theoretical support for the Stakeholder orientation construct is Stakeholder Theory by Freeman (1984) and McWilliams and Siegel (2001). The construct was operationalized with four observed variables: Suppliers satisfaction, shareholder satisfaction, employee satisfaction and customer satisfaction.

2.6 Organizational performance

Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals (Yamin, Gunasekruan and Mavondo, 1999). Previous studies have found a relation between supplier chain integration operational and business performance (Flynn, Huo and Zhao, 2010) and between stakeholder satisfaction and organizational enduring success (Berrone, Surroca and Tribó, 2007; Fonseca et al., in press). Measures of accounting are more backward looking and market measures are more forward looking (Margolis and Walsh, 2003). In this study, organizational performance construct was operationalized by profitability growth, income growth and market share.

2.7 Research hypotheses

Based on the previous theoretical framework the following hypotheses were formulated and the theoretical model of figure 1 was proposed**:**

- Hypothesis 1: Supplier Orientation is positively dependent on Organizational Strategy;
- Hypothesis 2: Supplier Orientation is positively dependent on External Environment;
- Hypotheses 3: Stakeholders satisfaction is positively dependent on Supplier Orientation;
- Hypotheses 4: Organizational Performance is positively dependent on Stakeholders Satisfaction.

3 RESEARCH METHODOLOGIES (DATA COLLECTION PROCEDURES AND THE SURVEY INSTRUMENT)

The sampling frame consisted of quality, environmental and/or safety managers of organizations with management systems certified by APCER—Associação Portuguesa de Certificação (www.apcer.pt). Of the 2.906 managers contacted by e-mail, 375 responses were received (with 188 full complete responses). A self-administered online questionnaire was used (Lime Survey web-based open software).

Following literature review and managerial contributions, an exploratory study was performed with key quality, environmental and safety and sustainability managers. A pre-test of the questionnaire was made and the respondents were contacted by e-mail to fulfill the final questionnaire via web. Construct reliability was tested with Cronbach Alpha. Table 1 presents the constructs used in this research, the observed variables and their measurements and statistical description. A seven-point Likert scale was used with "1" indicating "totally disagree" and "7" indicating "totally agree".

Table 1 – The measurement of the observed variables

Constructs	**Observed Variable**	**Measurement and statistical description**
Organization strategy	Focalization strategy (v1)	Likert scale (1-7)
	New product development strategy (v2)	Likert scale (1-7)
	Minimum-cost strategy (v3)	Likert scale (1-7)
External environmental	Competitiveness Level (v4)	Likert scale (1-7)
	Uncertainty Level (v5)	Likert scale (1-7)
	Internal competition (v6)	Likert scale (1-7)
	External competition (v7)	Likert scale (1-7)
Suppliers orientation	Suppliers orientation (v8)	Likert scale (1-7)
	Best SSM practices (v9)	Likert scale (1-7)
	Suppliers management (v10)	Likert scale (1-7)
	Supplier management program (v11)	Scale (0-1)
Stakeholders satisfaction	Suppliers satisfaction (v12)	Likert scale (1-7)
	Shareholder satisfaction (v13)	Likert scale (1-7)
	Employee satisfaction (v14)	Likert scale (1-7)
	Customers satisfaction (v15)	Likert scale (1-7)
Organizational performance orientation	Profitability growth (v16)	Likert scale (1-7)
	Income growth (v17)	Likert scale (1-7)
	Market share growth (v18)	Likert scale (1-7)

4 ANALYSIS AND RESULTS

4.1 Descriptive Statistics

Several measures were taken to ensure the quality of collected data. A pre-test was carried and several explanations for fulfillment the survey were prepared. An email for further clarification was also provided. The survey was followed by several personal interviews to further validate and triangulate the results. Tables 2, 3 and 4 present descriptive data for the respondents.

4.2 Reliability and validity of scales

According to Hair et al. (2010), it is very important to evaluate the quality of the collected data. To examine scales reliability, we used Cronbach Alpha (Conbrach, 1951), considering as criteria a value greater than 0.6 (Pestana and Gagueiro, 2003). As regards the scales validity, exploratory factor analysis was used, considering as criteria eigenvalues greater than 1, factor loadings greater than 0.4 and values for Kaiser-Meyer-Olkin (KMO) greater than 0.5 (Marôco, 2010). Table 5 presents the reliability and validity results of the scales used:

Table 2 – Position of the respondents

Position of the respondents	**%**
Quality, Environmental or Health and Safety Manager	78.6%
CEO	9.2%
Marketing/Sales	1.55%
Production/Technology	4.9%
Human Resources	5.88%

Table 3 – Sector Type

Sector Type	**%**
Industry	40.8%
Commerce	6.3%
Insurance and banking	0.5%
Telecommunications	2.9%
Others	49.5%

Table 4 – Descriptive statistics

Observed variable	Nº Counts	Mean	Standard deviation	Minimum	Maximum
Focalization strategy (v1)	188	5.44	1.405	1	7
New product development strategy (v2)	188	5.40	1.288	1	7
Minimum-cost strategy (v3)	188	4.50	1.648	1	7
Competitiveness Level (v4)	188	5.67	1.222	1	7
Uncertainty Level (v5)	188	5.70	1.210	1	7
Internal competition (v6)	188	3.67	1.413	1	7
External competition (v7)	188	4.15	1.424	1	7
Suppliers orientation (v8)	188	5.40	1.144	1	7
Best SSM practices (v9)	188	5.45	0.967	1	7
Suppliers management (v10)	188	5.73	0.955	1	7
Supplier management program (v11)	188	0.17	0.377	0	1
Suppliers satisfaction (v12)	188	5.69	0.931	1	7
Shareholder satisfaction (v13)	188	4.81	1.156	1	7
Employee satisfaction (v14)	188	5.15	0.960	1	7
Customers satisfaction (v15)	188	5.22	1.022	1	7
Profitability growth (v16)	188	4.88	1.098	1	7
Income growth (v17)	188	4.76	1.168	1	7
Market share growth (v18)	188	4.58	0.969	1	7

As can be seen in Table 5, the following results were achieved:

- For Organization Strategy, a reasonable Cronbach Alpha (0.617), a reasonable KMO (0.575) and a total amount of variance explained by the solution of 59% (one factor);
- For External Environment, a reasonable Cronbach Alpha (0.785), a reasonable KMO (0.593) and a total amount of variance explained by the solution of 89% (two factors);
- For Supplier Orientation, a reasonable Cronbach Alpha (0.767), a reasonable KMO (0.709) and a total amount of variance explained by the solution of 54% (one factor);
- For Stakeholders Satisfaction, a good Cronbach Alpha (0.853), a good KMO (0.810) and a total amount of variance explained by the solution of 70% (one factor);

And finally, for Organizational Performance Orientation, a good Cronbach Alpha (0.829), a reasonable KMO (0.659) and a total amount of variance explained by the solution of 75% (one factor).

Table 5 – Reliability and validity of scales

Construct	Observed variables	Cronbach Alpha	KMO	Extracted factors	Factor loading	
					Factor 1	Factor 2
Organization Strategy	V1	0.615	0.575	1	0.856	
	V2				0.835	
	V3				0.574	
			Eigenvalues		1.760	
			Variance explained (%)		58.652	
External Environment	V4	0.785	0.593	2		0.925
	V5					0.918
	V6				0.940	
	V7				0.920	
			Eigenvalues		2.440	1.120
			Variance explained (%)		60.997	27.991
Supplier Orientation	V8	0.767	0.709	1	0.778	
	V9				0.857	
	V10				0.809	
	V11				0.422	
			Eigenvalues		2.171	
			Variance explained (%)		54.284	
Stakeholders Satisfaction	V12	0.53	0.810	1	0.816	
	V13				0.851	
	V14				0.782	
	V15				0.886	
			Eigenvalues		2.786	
			Variance explained (%)		69.658	
Organizational Performance Orientation	V16	0.829	0.659	1	0.882	
	V17				0.918	
	V18				0.784	
			Eigenvalues		2.235	
			Variance explained (%)		74.500	

4.3 Measurement and structural model

The measurement and structural model was estimated in AMOS 22.0. The maximum likelihood method (ML) was used because this method is robust and capable of producing reliable results when compared with other methods (Hair et al. 2010). In order to have comparative interpretations, estimated coefficients are standardized.

The individual reliability of observed variables was examined through the analysis of the estimated coefficients and the coefficients of determination (R2). To ensure the reliability, estimated coefficients must be statistically significant and have values equal or greater than 0.5 (Hair et al., 2010). However, in practical terms, it is possible to have an R2 equal or greater than 0.2 (Hair et al., 2010). The individual reliability of the observed variables is presented in Table 6.

Table 6 – Individual reliability of observed variables

Variable	**Estimate coefficient (ML)**	**P Label**	**R^2**
Organization Strategy			
V1	0.752	***	0.566
V2	0.772	***	0.596
V3	0.348	***	0.121
External Environment			
V4	0.867	***	0.752
V5	0.877	***	0.769
V6	0.346	***	0.120
V7	0.419	***	0.176
Suppliers Orientation			
V8	0.691	***	0.477
V9	0.800	***	0.640
V10	0.722	***	0.521
V11	0.246	**	0.061
Stakeholders Satisfaction			
V12	0.875	***	0.766
V13	0.708	***	0.501
V14	0.796	***	0.634
V15	0.689	***	0.475
Organizational Performance Orientation			
V16	0.943	***	0.889
V17	0.817	***	0.667
V18	0.549	***	0.301

Notes:
*** Regression weight is significantly different from zero at the 0.1% level (two-tailed);
** Regression weight is significantly different from zero at the 1% level (two-tailed)

Analyzing Table 6, most of the variables have a good individual reliability. Enhancing the observed variables that have the highest coefficients (values above 0.7):

- The construct Organization Strategy was reflected, in a preponderant manner, in the variables Focalization strategy (V1) and New product development strategy (V2);

- The construct External Environmental was reflected, in a preponderant manner, in the variables Competitiveness Level (V4) and Uncertainty Level (V5);
- The construct Suppliers Orientation was reflected, in a preponderant manner, in the variables Best SSM practices (V9) and Suppliers management (V10);
- The construct Stakeholders Satisfaction was reflected, in a preponderant manner, in the variables Suppliers satisfaction (V12), Shareholder satisfaction (V13) and Employee satisfaction (V14);
- Finally, the construct Organizational Performance Orientation was reflected, in a preponderant manner, in the variables Profitability growth (V16) and Income growth (V17).

Considering the measurement and structural model, estimated with maximum-likelihood estimation, it can be stated that the model fit the data well as shown is Table 7):

Table 7 – Model fit

Goodness-of-fit measures	Criteria	Structural model
Sample moments	---	171
Distinct parameters	---	42
Degree of freedom	.	129
Chi-square	---	296.736
Absolute fit index		
Chi-square/degrees of freedom	≤ 2	2.3
Goodness of fit index (GFI)	≥ 0.90	0.856
Root mean square residual (RMSR)	≤ 0.10	0.083
Comparative fit index		
Comparative it index (CFI)	≥ 0.90	0.895
Parsimony index		
Parsimony Comparative fit index (PCFI)	≥ 0.60	0.754
Parsimony Goodness of fit index (PGFI)	≥ 0.60	0.646

By analyzing the structural model of Figure 2 it is possible to state that there are the following positive relations:

- Between the Organization Strategy and Supplier Orientation, supporting the findings of Li et al. (2006) that organizations with high levels of Supplier Chain Management practices have high levels of Competitive Advantage and Operational Performance and the results of Prajogo, Huo and Han (2012) according to which the more intense is the level of ISO

9000 implementation the higher the positive relation with the key supplier management practices.

- Between Supplier Orientation and Stakeholders Satisfaction, confirming the findings reported by Kuei et al. (2005) that supply chain quality management initiatives have a positive influence on firms customer service and product quality performance, by Lin et al. (2005) that supplier participation and selection strategy influences business results, by Yeung (2008) that concluded that Supplier Strategic Management leads to customer satisfaction (customer is indeed a relevant organizational stakeholder as per Freeman Stakeholder Theory) and by Fonseca et al. (in press) that stakeholder satisfaction has a positive relationship with enduring business success.
- Between Stakeholders Satisfaction and Organizational Performance Orientation, in corroboration with the findings of Flynn and Flynn (2005) according to which organizations by pursuing quality and supply chain goals simultaneously achieve competitive advantage. Also, in connection with the previous finding (positive relation between Supplier Orientation and Stakeholders Satisfaction) these findings supports the results reported by Li et al. (2006) that organizations with high levels of Supplier Chain Management practices have high levels of Competitive Advantage and Operational Performance, by Yeung (2008) that these practices at a strategic level lead to customer satisfaction and superior business performance and by Prajogo, Huo and Han (2012) that supplier management has a positive effect on operational performance.

On the other hand, contrary to what was stated by Industry Structure and Market Basis Positioning Theory (Porter, 1980; 1985) the results didn´t support the external environment has a dominant force influencing strategic actions for supplier orientation, since it was found a negative relation between External Environmental and Supplier Orientation.

In summary, the hypotheses H1, H3 and H4 were supported and the hypothesis H2 was not supported, as summarized in Table 8:

Table 8 – Hypotheses analysis

Hypotheses	**Estimate**	***p* value**	**Conclusion**
H1: Organization Strategy -> Supplier Orientation	0.189	**	Supported
H2: External Environnent -> Supplier Orientation	-0.131	0.131	Not supported
H3: Supplier Orientation -> Stakeholders Satisfaction	0.894	***	Supported
H4: Stakeholders Satisfaction -> Organizational Performance Orientation	0.699	***	Supported

Notes:
** Regression weight is significantly different from zero at the 0.1% level (two-tailed);
*** Regression weight is significantly different from zero at the 5% level (two-tailed)

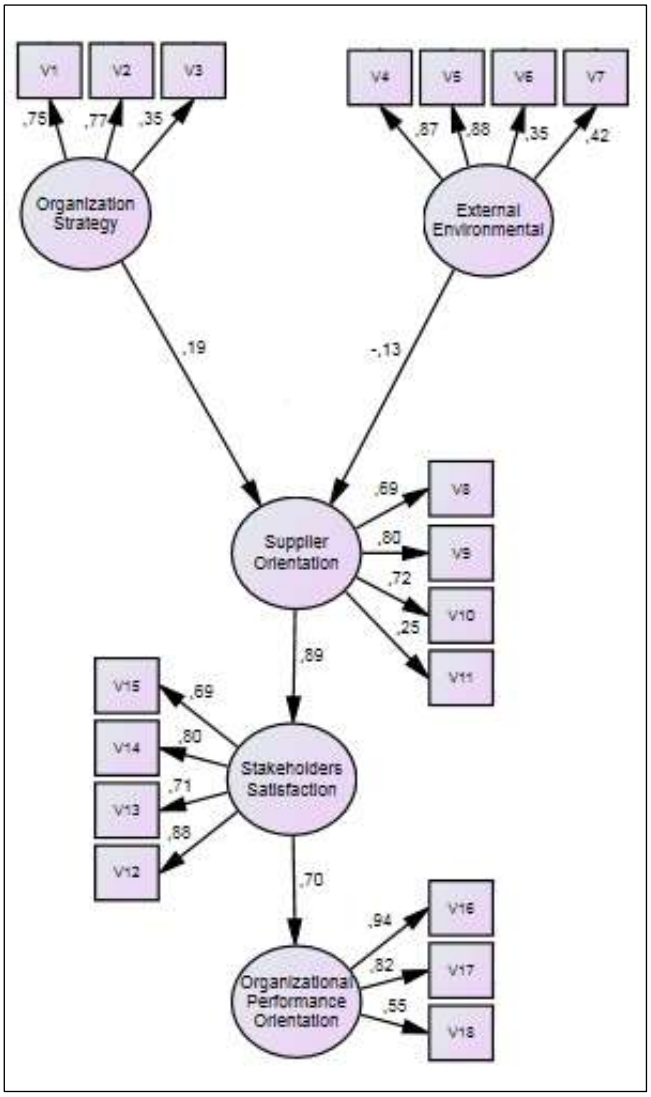

Figure 2 – Estimated structural model

5 DISCUSSIONS

ISO 9001 certification is growing worldwide and there are more than 1 Million organizations with certified Quality Management Systems (QMS) all over the world. Scholars tend to agree that the successes in the implementation of ISO 9001 QMS are linked to organization motivations (most significant results when the motivations are internal rather than external) and to the way the standard is interpreted and implemented. However, the relationships between ISO 9001 and firm performance are still not unanimously accepted by scholars, so this is an issue worth further investigation as we realize that certifications number keep on growing worldwide.

Supplier Chain Management (SCM) research was reviewd allowing to the conclusion that SCM has become an important and critical aspect for the enduring success of any organization. But Quality Managemnet (QM) also impacts the performance of the organizations supply chain. In addition, the relationship between SCM and QM is evident on the Quality Management Principle of the ISO 9000 series of standards and it is reinforced in the 2015 edition of ISO 9001 International Standard. It should be noticed that for authors such as Robinson and Malhotra (2005), the link between SCM and QM still deserves additional study.

In order to better support the research hypotheses the research was framed on major theories like the Market-Based View of the Firm (Porter, 1980, 1985), and the Resourced Based View of the Firm (Barney, 1991, 2001; McWilliams and Siegel, 2001), to support the relationship between SCM and organizational performance.

After literature review, definition of concepts and identification of the major conclusions regarding the relationship between QM and SCM and their impact on Organizational Performance, a theoretical model was presented. An online survey and descriptive Statistics and Structural Model Equations were used to validate the proposed conceptual model. Based on the analysis of the structural model (see Figure 3) the following conclusions were reached: there are positive relations between Organization Strategy and Supplier Orientation, between Supplier Orientation and Stakeholders Satisfaction, and between Stakeholders Satisfaction and Organizational Performance Orientation. On the other hand, contrary to what was stated by theory, a negative relation between External Environmental and Supplier Orientation was found, so this could be another research path worth pursuing.

Amongst other interest findings of this research the following ones can be highlighted:

- The construct Suppliers Orientation was reflected, in a preponderant manner, in the variables Best SSM practices (V9) and Suppliers management (V10);
- The construct Stakeholders Satisfaction was reflected, in a preponderant manner, in the variables Suppliers satisfaction (V12), Shareholder satisfaction (V13) and Employee satisfaction (V14);
- Finally, the construct Organizational Performance Orientation was reflected, in a preponderant manner, in the variables Profitability growth (V16) and Income growth (V17).

6 CONCLUSIONS

The main finding of this investigation, in line with literature research and the theoretical framework used, is to provide empirical evidence to support the

conceptual and prescriptive statements in the literature concerning the impact of Supplier Chain Management practices in organizational performance, mediated by stakeholder satisfaction. It highlights the positive relationships between Organization Strategy and Supplier Orientation, between Supplier Orientation and Stakeholders Satisfaction and between Stakeholders Satisfaction and Organizational Performance addressing the literature on the relationships between Quality and Supply Chain Management. This work provides evidence that in ISO 9001 Quality Management System certified organizations Supplier Chain Management can improve organizational performance. This conclusion supports ISO 9001:2015 edition Quality Management Principle nº 7 - Relationship Management that "*for sustained success, organizations manage their relationships with interested parties, such as suppliers"* and the addition of the organizational context and (relevant) stakeholders (ISO, 2015).

This study result can be useful to several groups, including Quality and Supply Chain researchers and organization's managers. As for Quality and Supply Chain researchers this investigation adds new knowledge to the fact that Supplier Orientation is positively dependent on Organizational Strategy and confirms Freeman Stakeholder Theory expectations that Stakeholders Satisfaction is positively dependent on Supplier Orientation and Organizational Performance is positively dependent on Stakeholders Satisfaction. This means ISO 9001 certified organizations need to address both the external and the internal dimensions of their quality management systems.

As for Supply Chain and Quality organization's managers there is a strong argument that for managers of Portuguese organizations with a Quality Management Systems ISO 9001 certification, Supply Chain Management is relevant to stakeholder satisfaction and for superior organizational performance. The findings support that supplier orientation, mediated by stakeholder satisfaction, is an essential tool for the enduring success of ISO 9001 certified organizations bringing awareness and understanding of Supply Chain Management relevance for the satisfaction of their stakeholders and the achievement of enduring business performance. This work can make a contribution to both Quality and Supply Chain Management practice as managers look into approaches for performance improvement.

7 LIMITATIONS AND SUGGESTIONS FOR FUTURE WORK

One of the research limitations of this works is that the respondents were managers from organizations with a certified management system from Portugal leading systems certification body and the analysis is based on their perceptions. So when they think on behalf of their Suppliers perceptions this might need further confirmation. The use of perceptual data related to performance may have a bias effect on the study results, however, several authors (Berrone, Surroca and Tribó, 2007) sustain that perceptual data is useful. It should be noted that the supplier orientation practices may be influenced by factors such as type of

industry, firm size, firm's position in the supply chain, supply chain length and the type of a supply chain (see Li et al., 2006). Due to these limitations, future research is recommended using mixed methods research in order to validate the results of this work, and apply a longitudinal study to better capture the relationships between Quality Management Systems, Supply Chain Management and organizational performance. Additional research should extend this study to certified organizations by other certification bodies and also with non-certified organizations and it might be useful to replicate the study with managers from other countries taking into consideration possible moderation role of countries cultural dimensions.

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