PAPER TITLE:

Supply Chain Quality Relationship Management: managing triadic relationships towards improved performance outcomes

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Type of paper: literature review

ABSTRACT

Purpose:

Managers and academics are conscientious that companies compete as a larger network. They need to understand the role of network relationships towards improved supply chain performance; however, clear conceptual backgrounds are needed.

For this purpose, this review focuses Relationship Management (relationship types and classifications, collaboration, triads) and *Supply Chain Quality Management (SCQM)* Performance, suggesting *Supply Chain Quality Relationship Management* (SCQRM) as a concept to guide future research on the management of relationships established within triads towards the achievement of improved quality performance.

Methodology:

A literature review paper is proposed to identify theoretical gaps and further research needs.

Findings:

- Further Operations Management research in relationship management is needed to explore the effects of triads, relationship types and SCQM on operational performance.

- Future studies need to provide clear conceptualizations of relationship types.

- The role of collaboration in SC performance needs to be demonstrated, particularly when it comes to quality implementation.

- Empirical research is needed in SCQRM to understand the role of the different relationships established within networks and its SC performance consequences.

Value of paper:

To answer both managers and academics concerns, this paper combined operations and marketing literature, providing a clear theoretical conceptualization towards the understanding of network relationship management and clarifying the distinction between cooperation and collaboration.

It also contributes to the literature by suggesting a new concept (SCQRM) to guide further research that attempts to clarify the nature of buyer-supplier-supplier relationships and its suggested performance links.

INTRODUCTION

Over the past few years, with the increased attention given to outsourcing and to the global supply chain, Supplier Relationship Management (SRM) has become a common concern, both for practitioners and academics (Cousins, 1999; Cousins and Spekman, 2003; Mehta, 2004: Soltani *et al.*, 2011). Increased discussion on the topic has emerged, on the form of specific companies dedicated to SRM (e.g., BravoSolution) and academic publications (e.g., Emmet and Crocker, 2006, 2009), but there is still disagreement and confusion over the nature and measurement of the relationships established and ultimately over how they affect performance. Consequently, the main aim of the present paper shall be to critically review the literature in order to understand the nature of buyer-supplier-supplier relationships and its consequences for quality performance, identifying the main gaps in the field and providing a road map for future empirical research on the role of collaboration in triadic relationships and in supply chain performance.

Several authors discuss the benefits of SRM and strategic supply (e.g., Day and Lichtenstein, 2006; Emmet and Crocker, 2009; Trent, 2005) and focus on how the use of software management tools can improve SRM from a procurement perspective (eg., Webb, 2007; Park, *et al.*, 2010), facilitating and promoting innovation, resource sharing (information, operational, financial or social capital), cost savings and greater quality integration (e.g., Whipple, Lynch and Nyaga, 2010:507). Additionally, it is argued that to achieve these benefits, open communication, trust and long-term relationships are vital (e.g., Gadde and Håkansson, 2001). Furthermore, most of the research on relationships considered dyadic arrangements (buyer-supplier or supplier-supplier relationships) originating different typologies that do not represent the full complexity of supply network relationships (e.g., Choi and Wu, 2009).

As a result, both practitioners and academics maintain and argue the assumption that closer relationships improve overall supply chain (SC) performance, particularly in terms of returns, cost savings, quality improvements (Gadde and Håkansson, 2001:138-139; Macbeth, 1994:25) as well as quality performance (Fynes, Búrca and Voss, 2005). Nevertheless, most companies do not engage in this "ideal" type of collaborative approaches and it is not empirically clear how and in what sense these quality performance improvements actually occur. A lot has been written on inter-firm relationships, SC quality and on performance, but it is still not clear if these performance improvements can be extended through the network (since most studies rely on dyads and their perceptions) and there is a lack of clarity in what concerns the role of the established relationships (whether collaborative or not) towards SC quality performance.

For this reason, this paper intends to discuss these assumptions, suggesting a new term for the literature that encompasses previous research but broadens the scope of relationships considered in order to allow further research towards the understanding of the role of relationship types and structures in the implementation of SC quality systems. For this purpose, this review is structured around four main titles: we shall start by briefly focusing the main literature and research on relationship management (RM) that characterizes the shift towards the *relationship paradigm*, followed by the contextualization of *supply chain quality management* (SCQM) and its links to collaboration literature. Finally, the supply chain quality relationship management (SCQRM) concept is suggested and explained as a step beyond dyadic RM, SCQM and *supply chain relationship quality* (SCRQ) (Fynes, Voss and Búrca, 2005).

The Relationship Paradigm

Relationship management (RM) research sits right within the link between marketing and operations management (OM). However, perceived as a *soft* issue, relationships have been studied

mostly from a marketing perspective at an individual level (intra-organisational relationships) and, when B2B relationships are considered (inter-organisational relationships) this is done from the distribution channels perspective, comparing levels of integration and still grounded by marketing theories and principles such as *relational exchange theory* (Macneil, 1980; cited by Simpson and Mayo, 1997:210). From an OM perspective, relationships are bound to be different and the focus of research tends to be on buyer-supplier relationships and selection practices, where the main goal is to understand the benefits and pitfalls involved in their interaction. Accordingly, some frameworks have been suggested to assist companies in the management of their relationships such as:

- *Kraljic Matrix*, (1983; cited by Cousins *et al.*, 2008) used to categorize suppliers (as bottlenecks, critical, routine or leverage) and portraying the general strategies to adopt;
- Maturity Grid (Macbeth and Ferguson, 1994) for partnership sourcing;
- *Partnership Model* (Lambert, Emmelhainz and Gardner, 1996) used to classify the type of partnership (I, II or III) to develop, where legal combinations are excluded and where Type I involves coordination on a limited basis within a short time frame, Type II progresses to "integration" of activities such as joint planning to avoid conflicting goals and Type III focuses on both operating and strategic integration (Ayers, 2006:210);
- Dependency (Historic, Economic, Technological and Political dependency) and Certainty (Risk VS Trust) matrix (Cousins, 2002), a model of inter-firm relationships, proposing two forms of competition (adversarial and opportunistic) and two forms of collaboration (tactical and strategic);
- *Type of collaboration matrix*, where three types are suggested: 'market', 'operational' or 'strategic collaboration' (Cousins, 2005; cited by Cousins *et al.*, 2008).

Considering the RM theoretical developments, according to Cousins (2002:72) three major areas can be broadly identified: *the economic perspective*, where inter-firm relationships are studied according to *transaction cost economic* (TCE) principles, discussing economic power exchanges, governance mechanisms and opportunism; the *behavioural or humanistic perspective*, where relationships between firms are interpreted according to *resource-based view* and *social exchange theory* on the same basis as human interpersonal relationships (including trust, commitment, communication and cooperation); and the *Industrial Marketing and Purchasing (IMP) group perspective*, that combines both viewpoints in an "interaction approach" to describe the nature and scope of supplier–customer interaction (Kothandaraman and Wilson, 2000:344), assuming an holistic and systematic approach and focusing on relationship networks mapping (Cousins, 2002:76). Following this trend, an overall network approach to SCM has been growing in OM research as well as a growing interest in the study of the SC combined performance outcomes.

Regarding RM research, it is mostly based on dyads, either focusing buyer-supplier or suppliersupplier relationships, studying the perceptions of those relationships and their outcomes. Concerning buyer-supplier relationships, Trent (2005:54) suggests four types of supply relationships: counterproductive (lose-lose), competitive (win-lose), cooperative (win-win) and collaborative (winwin). For supplier-supplier relationships, Choi (2007:55) suggests three main relationship archetypes: competitive, cooperative and co-opetitive.

Although methodologically easier to accomplish, studies that solely focus on dyads reveal to be a partial approach that does not fully represent the complexity of the relationships involved in the SC. On the one hand, they do not consider both companies within the broader network and, on the other hand, they also do not take into account the influence between links (i.e. how buyer-supplier link affects supplier-supplier link) (Choi and Wu, 2009:10), hence the need to consider the triadic relationships (buyer-supplier). Triads (buyer-supplier) refer to the potential links between three actors in the SC network (Madhavan *et al.*, 2004; cited by Peng *et al.*, 2010:399), where

different arrangements can occur (cf. Figure 1), which are expected to differently influence cooperative performance (Peng *et al.*, 2010:402).

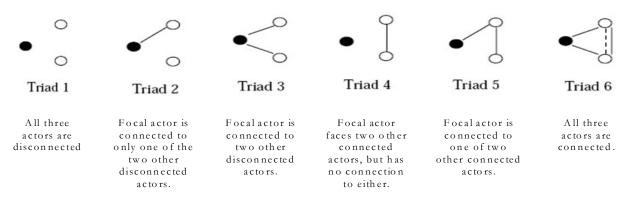


Figure 1: Six types of triads (Adapted from: Peng, et al., 2010:400).

Following these theoretical and methodological trends, most of the literature tends to focus on the distinction between *discrete transactions* (usually a short-term contract and considered *low involvement*) and *relational or collaborative exchanges* (a longer-term agreement, commonly defined as *high involvement*) (Gadde and Håkansson, 2001:152) (cf. Table I).

Adversarial	Collaborative		
Time-span of interaction			
Discrete events	Transaction history		
Contracts for months	Supplier for 'life'		
Low switching costs	Switching is the last option		
Personal attitudes and behaviour			
	De en la deviale nue ent		
Expertise closely held	People development		
Centralize authority	Devolve authority		
Power explicit and visible	Power two-way and hidden		
Buyer knows best	Supplier supports innovation		
Reactive suppliers Minimal interactions	Pro-active suppliers		
	Multiple interactions		
Customer-imposed stress Individual focus	Self-imposed stress		
Live for the moment	Mutual respect Build for the future		
Aggressive defence			
Look good locally	Open-sharing approach Group gains sought		
Look good locally	Group gams sought		
Organisational processes			
Produce to drawing	Design involvement		
Hands-off	Hands-on		
Limited gate-keepers	Many touch-points		
Static systems	Technology transfers		
Measurements			
Unidirectional (vendor rating)	Total acquisition cost		
Unidimensional (price)	Relationship measurement		
Internal cost reduction	Supply chain effectiveness		
Inspect outcomes	Control inputs and processes		
Limited feedback: blaming	Frequent feedback: improvement		
Learning limited	Success shared and rewarded		
	Success shared and rewarded		

Nevertheless, because different types of relationships and levels of involvement are developed within the network of relationships, these are interpreted within a continuum approach, with transactional exchanges in one end and relational exchanges in the other (Heide and John, 1992; cited by Simpson and Mayo, 1997:210) (cf. Figure 2). Even though this relationship continuum is generally recognised, the confusion between the intermediate terms and definitions remains, particularly in what concerns terms usually used as synonyms such as collaboration, cooperation, alliances and partnerships. In an attempt to clarify these terms, we have chosen to distinguish cooperation and collaboration following Trent's (2005) classification (although some authors still use them as synonymous - e.g. Choi, 2007), suggesting here four broad types of relationships along the continuum: *competition, co-operation* and *collaboration*.

First, *competition* refers to the typically one-off adversarial and arm's length relationships portraved by TCE studies, where companies focus on their individual profits and benefits. Second, coopetiton (Noorda, 1993; cited by Nalebuff and Brandenburger, 2002:4) is a term used when companies are forced to both compete and co-operate due to their position in the network. Third, *co-operation*, or tactical collaboration as defined by Cousins (2002:80), refers to "a joint enterprise over a limited domain" (Child and Faulkner, 1998:113), that is, improvements or joint activities in terms of technology coordination (e.g. EDI links), new product developments or operations improvements (Spekman et al., 1998), which reflect solely market or operational collaboration (Cousins, 2005; cited by Cousins et al., 2008). Hence the inclusion of alliances and joint ventures as well as Lambert et al. (1996) partnership types I and II. Finally, in collaboration or 'Strategic Collaboration' (Cousins, 2002:80), total SC integration is expected through the development of closer relationships (with higher levels of trust, commitment, mutuality and effective communication – Barratt, 2004), not always under formal agreements (Child and Faulkner, 1998: 120-124). Similar to the definition of a strategic alliance - as defined by Liao, Hong and Rao (2010:7), since Child and Faulkner's (1998) definition of a strategic alliance refers more to cooperation - or a partnership type III (Lambert et al., 1996), companies shall rely on deeper levels of information sharing, joint strategic planning (in terms of both market and operational collaboration - Cousins, 2005; cited by Cousins et al., 2008), shared costs/benefits, and higher levels of visibility, transparency and flexibility (Emmet and Crocker, 2006:53).

Transactional exchanges	Network relational exchanges		
<i>Competition Co-opetition</i> Arm's Lenght	<i>Co-operation</i> Type I and Type II partnerships	Collaboration Type III partnership	
Fraditional/Adversarial Opportunistic Behaviour	<i>Tactical</i> <i>Collaboration</i> Alliances, Joint Ventures	Strategic Collaboration Strategic alliance	
- -		Trust + Commitment Mutuality Effective communication Information exchange	

Figure 2: Relationship Typology and Evolution of RM research (Based on: Barratt, 2004; Bensaou, 1999; Choi, 2007; Cousins, 2002; Lambert, Emmelhainz and Gardner, 1996; Liao, Hong and Rao, 2010; Spekman, Kamauff and Myhr, 1998; Trent, 2005).

Given this array of relationship possibilities, companies need to make sure they clearly understand their implications and that they choose to develop the ones that best fit their existent portfolio, since not all relationships should be collaborative (Barratt, 2004; Day *et al.*, 2008).

This portfolio will then include the different SC network relationships that will be established between the different actors, nodes and links, therefore, *Strategic Supplier Relationship Management* (SSRM) (Day *et al.*, 2008:40), reveals fundamental to determine the nature and scope of involvement of the established relationships (Ford *et al.*, 2003:85-86), in order to achieve both operational and strategic benefits (Day *et al.*, 2008; Trent, 2005). Consequently, relationships are defined as processes that need to be strategically managed towards the achievement of pre-defined outcomes (Cousins, 2002:78; Lambert, 2004:19) and SC is defined as a social network where extended relationships are considered to improve competitive advantage (Choi *et al.* 2001; cited by Choi and Wu, 2009:9).

Supply Chain Quality Management (SCQM)

This need for external integration (SRM) through the development of closer relationships and collaboration is not something new. The benefits generated by closer relationships with fewer suppliers have been emphasized since the 80s with Deming's quality fourteen points (1986; cited by MacBeth and Ferguson, 1994:62; Cousins, 2002:74). Deming (1981–1982), Garvin (1987), and Juran and Gryna (1988) (cited by Stanley and Wisner, 2001:289) argued that the "effective management of external supplier quality is a critical element of quality management". Additionally, acknowledging the prospective benefits of collaborating with their suppliers in managing quality in their supply chains (Choi and Rungtusanatham, 1999; cited by Sila, Ebrahimpour and Birkholz, 2006:491), a few examples can be mentioned such as Dell, Toyota and Daimen-Chrysler with the concept of *Extended Enterprise* (Dyer, 2000; Iyer, Seshadri and Vasher, 2009; McClellan, 2003; Wu, Choi and Rungtusanatham, 2010).

Concurrently, as research interests move from the traditional organization-centred approach towards the consideration of the overall SC network (Kuei *et al.*, 2001; Robinson and Malhotra, 2005), managers are no longer concerned with their individual performances but with the competitive advantage of their SC.

Therefore, even though individually TQM and SCM have proved to be two fundamental philosophies and practices critical to organizational performance (Gunasekaran and McGaughey, 2003; Robinson and Malhotra, 2005; Casadesus and Castro, 2005; cited by Vanichchinchai and Igel, 2009:250), they remain difficult to combine. On the one hand, due to the lack of conceptual clarity of both (Vanichchinchai and Igel, 2009:255) and, on the other hand, due to the complexity generated in an organizations' processes and structure (Vanichchinchai and Igel, 2009:253), which requires the involvement and continuous collaboration at internal and external levels (Gimenez, 2004; Sohal and Anderson, 1999; cited by Vanichchinchai and Igel, 2009:254).

Given this, while some authors still focus on the conflicts or trade-offs between QM and SCM, others focus their complementarities, arguing that QM is the fundamental building block for SCM (e.g., Flynn and Flynn, 2005). Since products, information and processes pass from one chain member to the other, their quality is affected by all of the involved in the SC (Sila, Ebrahimpour and Birkholz, 2006:492).

Hence, to combine the characteristics of both, and to widen quality to the overall SC (Robinson and Malhotra, 2005; Sila, Ebrahimpour and Birkholz, 2006), a new management concept was developed, named *supply chain quality management (SCQM)* (cf. Figure 3).

Programs	 Acceptance sampling Control charts Statistical quality control Inspection 	 Zero defects Problem solving Quality circles Statistical process control Design of experiments 	- TQM - ISO 9001 - Baldrige Award - Six-sigma	Supply chain management	Supply Chain Quality Management (SCQM)
Years	1920-1960	1960-1980	1980-1990	1990-present	2004 and beyond
Focus	Internal Organization	Internal Organization	- Supply-base - Organization - Customer expectations	All supply channel members and mostly internal organization	All supply channel members and mostly external organization

Figure 3: Evolutionary timeline and SCQM focus (Source: Robinson and Malhotra, 2005:331).

According to Ross (1998; cited by Sila, Ebrahimpour and Birkholz, 2006:492), SCQM can be seen as "the latest stage in the total quality movement" defined "as the participation of all members of a supply channel network in the continuous and synchronized improvement of all processes, products, services, and work cultures focused on generating sources of productivity and competitive differentiation through the active promotion of market winning product and service solutions that provide total customer value and satisfaction".

Foster (2008:461) also defines SCQM as the "systems-based approach to performance improvement that leverages opportunities created by upstream and downstream linkages with suppliers and customers". In turn, Robinson and Malhotra (2005:319) focus "the formal coordination and integration of business processes involving all partner organizations in the supply channel to measure, analyze and continually improve products, services, and processes in order to create value and achieve satisfaction of intermediate and final customers in the marketplace."

According to Kuei and Madu (2001; cited by Kuei *et al.*, 2008:1127), SCQM encompasses 3 simple equations where "SC = a production–distribution network; Q = meeting market demands correctly, and achieving customer satisfaction rapidly and profitably; and M = enabling conditions and enhancing trust for supply chain quality." Furthermore, a conceptual model for SCQM implementation critical factors is proposed by Kuei *et al.* (2008:1129) while Chen and Paulraj (2004:121), highlighting collaboration benefits, argue the effective management of several SC factors to affect SC performance positively.

Even so, SCQM is quite a recent concept that still needs further literature and empirical research (Flynn and Flynn, 2005; Foster, 2008; Lin *et al.*, 2005; Madu, Kuei and Jacob, 1996; Sila, Ebrahimpour and Birkholz, 2006; Soltani, *et al.*, 2011) and despite the fact that some studies have supported the relationship between SCQM practices and their positive impacts on performance (e.g., Kahnali and Taghavi, 2010:45), their effects on the network and SC performance are not clear nor consensual (Lin *et al.*, 2005:357; Kaynak and Hartely, 2007; Kanji and Wong, 1999, cited by Kahnali and Taghavi, 2010:47), hence the need for further research.

Collaboration and SCQM

Collaborative relationships provide greater advantages than transactional relationships enabling both quality and cost improvements (Larson, Carr, & Dhariwal, 2005; cited by Whipple, Lynch and Nyaga, 2010:507). Through the connection of the downstream and upstream network actors (Lin *et al.,* 2005; Kahnali and Taghavi, 2010:46), they are expected to positively affect SC performance (measured by variables like quality, delivery, cost and flexibility) (Fynes, Búrca and Voss, 2005).

Although widely accepted, collaboration is still an "amorphous meta-concept" (Barratt, 2004:39) that has been interpreted differently by several authors. Nevertheless, there seems to be a general agreement that, if SC integration (internal and external) is achieved, through supply quality management (SQM), developing upstream and downstream close relationships, this will generate improved quality performance (which includes "conformance" and "design") (Fynes, Voss and Búrca, 2005:343). Lo and Yeung (2006:208) define supply quality management (SQM) as the "various management efforts for managing supply function through establishing close and long-term buyer-supplier relationship in order to improve the overall organisational quality performance." They also identify three vital SQM areas: *supplier selection, supplier development and supplier integration* (Lo *et al.,* 2001; cited by Lo and Yeung, 2006:209)

Nonetheless, given the lack of clarity and agreement over the basic concepts so far discussed, the implementation of SC collaboration towards SCQM, becomes hard to achieve. Consequently, while some companies suspect the benefits of SCQM others acknowledge them, but they do not fully implement it, including solely critical customers in their quality systems, instead of considering critical suppliers as well by investing in developing and reinforcing these relationships focused on quality to achieve greater long-term performance (Sila, Ebrahimpour and Birkholz, 2006:500).

As a result, even though companies recognise that they are affected by the external processes of the members of their SC and their relationships, in most cases they have no knowledge whatsoever of these processes, nor how to improve them (Barratt, 2004:31). Additionally, as the trends in research methodology, they tend to focus the dyadic relationships, which is not coherent with an overall network approach to ensure total SC quality, where the better you know your partners and the network interlinks, the easier it will be to suggest and implement continuous improvement processes (Gooch, 2001 and Witt, 2003; cited by Sila, Ebrahimpour and Birkholz, 2006:493). This occurs mainly because these practices are considered costly to implement, demanding not only resource availability, but also the development of a "collaborative culture" that includes "trust, mutuality, information exchange, openness and communication" (Barratt, 2004:33/35), that most companies that still follow traditional ways are not willing to develop.

Supply Chain Quality Relationship Management (SCQRM): old wine, new bottle?

According to Fynes, Voss and Búrca (2005:340), the literature has commonly focused the nature and dimensions of SC relationships (such as *trust, adaptation, interdependence, co-operation, communication and commitment*), but is yet to empirically study the influence of the actual relationships on quality performance. These authors suggest that the positive correlation of these dimensions will be strong indicators of "supply chain relationship quality (SCRQ)" which they define as "the degree to which both parties in a relationship are engaged in an active, long-term working relationship and operationalise the construct using indicators of communication, trust, adaptation, commitment, interdependence, and co-operation" (Fynes, Voss and Búrca, 2005:342).

Conversely, we suggest the adoption of a new term: Supply Chain Quality Relationship Management (SCQRM) (*in* Soares and Soltani, 2010:6) as the foundation towards the understanding of how the different type of relationships developed between the members of the network (here portrayed by triads) ultimately influences operational performance, particularly the implementation of quality systems. Although similar to the SCRQ suggested by Fynes, Voss and Búrca (2005), SCQRM is not *old wine in new bottles* as it refers to the need to go beyond SC relationship dimensions (as depicted by SCRQ) and RM research as it stands, through the consideration of a strategic SC quality approach where critical suppliers and the portfolio of relationships established is considered in a broader context than individual or dyadic levels. Besides the conceptual discussions done so far in the literature, and in order to avoid the myths of collaborative scalability and supremacy, there is still a need to empirically

assess and try to gain further understanding on how and which type of relationships favour SCQ performance and in what ways, that is, how it affects the five performance objectives: quality, speed, dependability, flexibility, and cost (Slack, Chambers and Johnston, 2010:40). Furthermore, the focus here is definitely on the need for SSRM, therefore this conceptualization implies the consideration of a continuum of relationships (as in figure 2), instead of just focusing long-term relationships as SCRQ, and the assumption of a strategically managed portfolio of network relationships towards enhanced quality.

Consequently, SCQRM recognizes both SCQM and SCRQ, assuming that companies need to strategically develop trust and commitment, based on mutuality and effective communication where information is shared throughout the whole chain (Barratt, 2004), increasing visibility, transparency and sharing benefits in order to improve SC performance (Emmett and Crocker, 2009). Furthermore, SCQRM concerns buyers and suppliers' perceptions and the ability of companies, not only to understand them, but also to strategically manage them in order to develop valuable relationships with their partners, engaging in different types of relationships that, as a whole, make the network efficient (e.g., Day *et al.*, 2008; Ford *et al.*, 2003; Gradinger, 2009; Soares and Soltani, 2010; Trent, 2005). This concept emerged from the need to empirically understand how the different relationships within a triadic context actually affect SC and quality performance. Also, it allows the consideration of a broader approach to the effects of relationships in SCQM, in order to further explore two needed areas of research: the network relationships returns (Child and Faulkner, 1998:116; Ford *et al.*, 2003:83) as well as the variety of potential obtained value (Cousins, 2002:78).

CONCLUSION

In order to achieve the main goals of the present paper, this review attempted to clarify and critically discuss the conceptual and empirical research so far presented in RM, providing the gaps and future research routes.

It became clear that, SRM models are mainly dyadic, mostly based on buyer-supplier relationships and used as supplier selection tools, some focusing on legal arrangements others on operational agreements, others arguing the need to focus on triads to understand the complex exchange network, and most of them confusing the terms partnership, cooperation and collaboration. Moreover, even though effective relationship management can impact operational performance not only through procurement but also through the quality systems implemented in SC as a whole, this is rarely considered. Running smooth operations is any managers' dream, but the extent to which they consider SC relationships fundamental to achieve that varies across industries.

For this reason, collaboration has become the latest buzzword in SRM, the one concept that everyone is talking about as if it represented the principle to follow. However, authors have agreed that relationships can be interpreted within a continuum and that a collaborative approach is not always the most adequate within the existent portfolio of relationships. Therefore, assuming collaboration as a magic solution to all problems and taking these assumptions for granted without clarifying what closer relationships means and the extent to which they are close can be dangerous, since they can simple refer to different degrees of cooperation or partnership, involving solely innovation agreements or limited knowledge and information sharing (Lambert, Knemeyer and Gardner, 2010; Whipple, Lynch and Nyaga, 2010). In fact, how can one infer that collaboration improves SC performance if the effects of this type of relationship have not been measured? Moreover, the question still is if we can actually have *collaboration*, in the true sense of the word, within a network and, if so, how can this be measured, quantified and how will this affect SCQ performance results.

Given this, future research suggestions include the development of SCQRM conceptual and empirical frameworks in order to address the OM relationship research gaps; the need to go beyond perceptions in explaining the influences of relationships in SCQ performance (Barratt, 2004; Fynes, Voss and Búrca, 2005); the need to understand "which factors affect and are affected by long-term channel exchange relationships" (Simpson and Mayo, 1997:209); and the need to explore the results of different relationship arrangements in SCQM and SC performance.

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