Volume 7• Number 1 • January - June 2014 DOI: http://dx.doi.org/10.12660/joscmv7n1p30-46

Dyad Buyer-Supplier and its Relation to Financial Performance

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ABSTRACT: This study aims to raise which practices of buyer-supplier dyad are related to the financial performance of the manufacturing industry in Brazil. Based of 174 Brazilian companies and a total of 312 respondents, the analysis use CFA (Confirmatory Factor Analysis) to validate the measurement of constructs and multiple regressions to analyze the relationship between practices of buyer-supplier dyad and financial performance. Our results showed a positive relationship dimension--strategic sourcing and buyer-supplier relationships--with the company's financial performance. However, the supplier evaluation system showed no statistically significant relationship. The findings reinforce the lack of formalization in the buyer-supplier relationship, a situation that often hinders the development of a long-term relationship. The lack of systematic evaluations of supplier performance can generate insecurity in the relationship, since historical actions taken by suppliers could serve as a criterion of choice in a future negotiation. As practical contributed to this study, it is expected that managers understand the importance of buyer-supplier relationship to the company's financial performance.

Keywords: dyad; buyer-supplier; financial performance relationship; industry

ISSN: 1984-3046 • Journal of Operations and Supply Chain Management Volume 7 Number 1 pp 30 – 46

1. INTRODUCTION

The positive influence of purchasing integration on manufacturing performance confirms anecdotal evidence about the importance of this competence. The purchasing's influence on final product changes, based on acquisition costs and availability analysis, technology forecasts, and supply base capability evaluations. This fact indicates the relevance of purchasing participation in strategy formulation and the need to focus on strategic performance metrics in purchasing performance evaluation and compensation systems. Companies that invest in practices to achieve this integration can expect to see commensurate gains in strategic performance (Narasimhan & Das, 2001).

Practices such as strategic purchasing, supplier evaluation systems, and buyer–supplier relationships are in fact important with respect to the firm's financial performance (Carr & Pearson, 1999). Narasimhan and Das (2001) claim that as in additional practices, supply base leveraging, buyer–supplier relationship development, and supplier performance evaluation, it is necessary to elevate purchasing into a strategic function. These practices should be accompanied by internally focused purchasing initiatives that enable purchasing to become a part of the business planning process to guide to a high level of competitive advantage.

Therefore, this study aims to raise which practices of buyer-supplier dyad are related to the financial performance of the manufacturing industry in Brazil. The central argument is that a well-aligned buyer–supplier relationship would have a measurable impact on the financial performance of the Brazilian manufacturing industry. The manufacturing industry was chosen for two reasons: first, for its relevance in the dynamics of the Brazilian economy (FIESP, 2014); second, for the importance of the role of relations between actors in the supply chain for the sector's competitiveness, since it depends on its suppliers to receive raw materials, development of new technologies, and, in some cases, distribute products in a timely fashion with minimal costs. Another factor is the lack of studies that address the dyad in the manufacturing industry as a whole, well as its relationship with financial performance.

Recent research has stressed that purchasing and supply management can have a profound impact on firms' financial performance (Ellram & Liu, 2002). But, according to Terpend *et al.* (2008, p. 43), there is little research on the financial factors affected by suppliers and supply chain performance indicators, and the "link between collaborative buyer–supplier relationships and operational performance was an important research focus throughout the past two decades, but the focus on financial performance only became evident after 2001". The authors were surprised when they found in six articles of the 151 reviewed there were dyadic buyer–supplier studies. They recommend more dyadic studies and future research efforts to recognize the limitations of a single theoretical perspective and adopt a multidimensional view to explain how buyer practices and the influence of buyer-supplier mutual efforts help the firm's performance.

The purchasing department possessed a strategic role in the organization (Pearson, Ellram & Carter, 1996; Carr & Smeltzer, 1997), especially in the relationship between buyer and supplier. It is through the relationships that are established with suppliers that inevitably will impact the company's financial performance. The perspective of relationship is opposed to models that perceive the supply a simple transactional exchange. This perspective, the social context of companies that negotiate together is based on reciprocity, cooperation and collaboration, is demonstrating to be an efficient means in relation-specific assets, knowledge sharing, complementary resources/capabilities, effective governance, and a possible source of competitive advantage (Dyer & Singh, 1998).

This study expects to stimulate research on the buyer-supplier relationship, a recent topic which needs further study for comparisons and analysis, as it is still under construction and debate, providing an empirical contribution. The article is organized into more four sections: the second presents a literature review; in the third, the methodological procedures employed to conduct the research are described; the next section presents the data analysis, and finally, concluding remarks are exposed with suggestions for future research.

2. REVIEW OF LITERATURE

The strategic management of resources, in order to increase the competitive advantage of organizations, came to occupy a prominent place on the agenda of managers, increasing the status of purchasing (Carr & Pearson, 1999). Studies on relationship management in the supply chain emphasize the importance of strategic relationships between buyers and suppliers.

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For this kind of relationship the coordination between business partners is essential. The intensity of competition in which a company operates is not a matter of coincidence or bad luck. This intensity of competition is caused by external forces belonging to the industry where the organization belongs to and it is significant and present the entire time, making these organizations seek to devise their strategies in which partnerships are strengthening and relevant options in the market (Porter, 1986). The supply area plays an important role for organizations to achieve their goals of cost savings and increased profitability (Anderson & Katz, 1998).

As a consequence, according to Joshi (2009), organizations have demanded an improvement in the performance of suppliers to enable them to maintain this advantage. There is no denying that when negotiation is based only on price, one of the first things that suffer is the quality of the purchased product. The supplier will seek a reduction in the standard of quality and offer only basic specifications using cheaper materials. It has been shown that the collaborative buyer-supplier relationships results in an acquisition of unique value (Corsten & Kumar, 2005). Thus, companies seek ways to improve their activities, some opting to vertically integrate their own acquisitions efforts and others seek market alternatives more agile and with better performance (Carr & Pearson, 1999).

In this conception, this buyer-supplier relationship must be fostered to achieve a process of competitive synergy, where both plot a horizon of opportunities. In this process, the supply area of a company becomes crucial, because it represents the immediate contact with the suppliers. To Lima (2008), the function of the supply area tends to be more strategic as the importance of acquisitions increases, requiring more attention than planning to trading activities that promote longer-term relationships, supplier development, and reduced total cost and not only perform the activities of rebuilding material for immediate stock.

2.1 Strategic sourcing

Carr and Pearson (2002) define strategic sourcing as the process of planning, evaluating, implementing, and controlling highly important sourcing decisions in an effort to meet a firm's long-range plans and goals. Strategic sourcing consists of strategic purchasing, internal integration, information sharing, and supplier development. It helps to select a group of strategic suppliers to develop a possible long-term partnership. "Internal integration enables purchasing to understand the needs of other functions like design, R&D and production" (Chiang, Kocabasoglu-Hillmer & Suresh, 2012, p. 69). Furthermore, the close relationship and the strategic role of purchasing, provide a foundation to conduct joint planning, response to market demand change, and satisfy specific customer requirements on the product (Chiang, Kocabasoglu-Hillmer & Suresh, 2012).

Purchase strategically requires a deep understanding of the assets traded on the needs of the buyer and supplier and also about the nature of their relationship (Menita *et al.*, 2011). Sourcing professionals' activities concentrate on (1) supplier selection, which entails identifying suppliers and performing a comparative evaluation of suppliers' abilities to meet sourcing requirements, and (2) supplier governance, which involves designing and negotiating contracts as well as implementing mechanisms to interact with internal customers and suppliers, to ensure the successful fulfillment of the sourced product/service (Rai & Hornyak, 2013).

The skills required for procurement professionals became more evident after the intensification of international trade and the opening of global frontiers in the late 1990s. This opening exponentially expanded the network of possibilities for the supply and diversity of criteria that now permeate the decision-making process (Boer, Labro & Morlacchi, 2001). These factors demanded that the choice of suppliers assume a more strategic focus, which happened to be building more enduring relationships. These partnerships would reduce the number of suppliers able to be chosen by restricting the list to only the most reliable (Ho, Xu & Dey, 2010).

Companies that recognize the value of purchasing strategy have an area of proactive purchasing, with skills and resources necessary to carry out operations with strategic level (Carr & Smeltzer, 1997). Strategic sourcing requires a long-term orientation and may ultimately create a collaborative advantage and bring about greater benefits through collaborative advantage than a traditional nonstrategic sourcing-based approach to competition. Especially enhanced buyer-supplier relationships through information sharing and supplier development practices may be regarded as a competence and expected to improve performance and competitiveness (Chen, Paulraj & Lado, 2004; Chiang, Kocabasoglu-Hillmer & Suresh,

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2012). So, it is imperative for practitioners to incorporate strategic sourcing as an integral part of the firm's business processes (Su, 2013).

2.2 Supplier-evaluation system

A supplier-evaluation system is defined as one whose activities are undertaken by the buying firms in their efforts to measure and improve the products or services they receive from their suppliers (Prahinski & Benton, 2004). The evaluation of suppliers is a tool used to gain advantage over competitors, and through this assessment information is obtained and will promote the development of joint processes and strategies that will guide shares between buyers and suppliers, increasing qualities and decreasing costs (Chow, Heaver & Henriksson, 1994). Supplier-evaluation process is a quantification process designed to stimulate the decision process inside the evaluating buying company or through the incentives it invokes, to stimulate a change in behavior in the evaluated supplying company (Neely *et al.*, 1997). It is a connected entity, which broadens performance measurement analysis within supplier evaluation practices, extending it from a study of single contingencies to a study of an interrelated chain of actor interference, decision making, and communication (Hald & Ellegaard, 2011).

When companies outsource a significant part of their business, the processes of supplier evaluation become strategic. Today, it is important to understand how suppliers work: your business, your work process, your capabilities, and ultimately establish a relationship among companies (Liker & Choi, 2004). This requires formalization in the buyer-supplier relationship, with contracts to coordinate the relationship guarantees the rights of the companies involved and the legal borders of the activities of the development process (Sobrero & Roberts, 2001). For example, Carr and Pearson (1999) found that formal communication of supplier evaluations positively influenced the supplier-evaluation system.

Based on the evaluation process, the buying firm can determine if the supply base is capable of meeting current and future business needs. The buying firm needs to quantify and communicate the measurements and targets to the supplier, so that the supplier is made aware of the discrepancy between its current performance and the buying firm's expectations (Prahinski & Benton, 2004). It involves the creation mechanisms and procedures that ensure the exchange of information and knowledge between the parties during the development of products, and partnerships provide opportunities for learning during the process (Sobrero & Roberts, 2001).

When the buying firm uses collaborative communication for the supplier-development programs, it is perceived by the supplier as an effective mechanism to improve the buyer–supplier relationship. Collaborative communication includes indirect influence strategy, formality, and feedback. However, the implementation of several supplier-evaluation communication strategies by itself is not enough to influence the supplier's performance. Relationship development includes enhancing cooperation; problem solving; and expressing commitment, loyalty, and a desire to continue the relationship for many years into the future (Prahinski & Benton, 2004).

Effective evaluation of outsources' capabilities and relationship management are often central for outsourcers to secure sustainable competitive advantage. Zhang *et al.* (2012) investigate how to evaluate outsources and manage outsourcing relationships in the pharmaceutical industry based on the theory of dynamic capability. Their study shows that a company can successfully pursue both strategic and operational outsourcing simultaneously by applying different supplier evaluation criteria and relationship management methods. Hence, a company can source new external knowledge and resources and reduce operational costs at the same time, which provides a way to tackle the potential negative consequences associated with outsourcing.

There are numerous perceived benefits to the supplier evaluation system. Among those: (1) meet the suppliers in more detail, (2) correct procedures and practices that can help suppliers to obtain better performance, (3) based on a diagnosis, more specialized, forward future actions for the benefit of the best suppliers, (4) improve the supplier's opinion about their practices, previously grounded only in reducing cost, and (5) achieve improvements in different areas, including increase competitiveness and extend gains for the entire organization (Neumann & Ribeiro, 2004).

2.3 Buyer-supplier relationship

Companies that establish long-term relationships with key suppliers can move the company to have an improvement in financial performance (Watts & Hahn, 1993; Carr & Pearson, 1999; Cohen & Silva,

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2000; Chen, Paulraj & Lado, 2004). However, the relationships are not rare or difficult to imitate. Byers can only achieve a differential advantage if they bring greater bargaining power to the table. It is the collaboration between firms that can generate relational rents though relation-specific assets, knowledge-sharing routines, complementary resource endowments, and effective governance. Collaborative advantage comes from relational rent, a common benefit that accrues to collaborative partners through combination, exchange, and co-development of idiosyncratic resources (Dyer and Singh, 1998).

The relational view takes the inter-organizational level of analysis and addresses the extent to which relational capabilities form the basis of durable strategic advantages (Dyer and Singh, 1998). Such a strategic intent then drives firms to acquire, access, or develop additional resources through cooperation. Paulraj, Lado, and Chen (2008) define inter-organizational communication as a relational capability, which functions as an important mediating construct that has different effects on outcomes for supplier and buyer firms. The author emphasizes that for supplier, the adoption of a long-term relationship orientation is necessary but not sufficient for achieving strategic advantage; it is need to hone skills for effective communication in order to reap fully the benefits of long-term relationships with buyer firms. For the buyer firms, establishing a network form of governance may not be sufficient for achieving a strategic advantage; such a governance form may only engender strategic advantage through providing an inter-organizational context that is conducive to collaborative communication.

Thus, a nuanced understanding of the roles of these factors in shaping an inter-organizational exchange context that is conducive to collaborative communication is key to effectively managing buyer-supplier relationships for mutual benefits (Chen, Paulraj & Lado, 2004; Paulraj, Lado & Chen, 2008). Collaboration with suppliers can provide elements of optimization and cost reduction; moreover, the dimension exchange of information or communication presents the relationship between buyer and supplier that can positively influence profitability (Carr & Pearson, 1999; Conceição & Quintão, 2004; Chen, Paulraj & Lado, 2004; Paulraj, Chen & Flynn, 2006).

Cao & Zhang (2011) identified a set of seven interconnecting dimensions that make up effective supply-chain collaboration: information sharing, goal congruence, decision synchronization, incentive alignment, resource sharing, collaborative communication, and joint knowledge creation. Authors confirmed that collaborative advantage and well-executed supply-chain collaboration directly improves firm performance in the long run. Collaborative advantage can be understood as a function of the combined value and rarity of all shared resources among supply-chain partners. The relationship implies that, in order for a supply chain as a whole to perform well, firms should try to create a win-win situation where all participants collaborate to achieve business synergy and compete with other chains (Paulraj, Chen & Flynn, 2006).

This relationship is beneficial for both sides, and the exchange of knowledge implies reduced spending for suppliers to reduce the time looking for faults and their causes. A good relationship is, for buyers, the capacity to share information of the products purchased (Watts & Hahn, 1993). The buying firm needs to establish an environment that is conducive to improving buyer–supplier relationship. Relationship development includes enhancing cooperation, problem solving, and expressing their commitment, loyalty, and desire to continue the relationship for many years into the future (Prahinski & Benton, 2004). Although, problem solving is not always regarded as something to value in a relationship, Brito, Brito & Hashiba (2014, p. 958) investigated the relationship between customers and suppliers and found that "shared problem solving is not an attractive practice in the relationship with suppliers and customers in the packaging industry". Monitoring the relationship is necessary; close social interactions between buyer-supplier makes the buyer able to gain access to valuable resources and exploit synergies created in the relationship. It promotes the risks of opportunism, loss of objectivity, ineffective decision making and higher cost (Villena, Revilla & Choi, 2011).

The firm needs to manage its supply chain and establish trust-based working relationships with suppliers; the results can be supply-chain capabilities or intangible resources that are so unique to that company that it gives them an advantage that ultimately increases firm performance (Paulraj, Lado & Chen, 2008). The underlying belief is that the elevated status of the purchasing function can promote collaborative relationships with suppliers through increased trust and commitment between internal customers and external suppliers (Paulraj, Chen & Flynn, 2006).

2.4 Financial Performance

Financial performance is perceived by organizations as a result of reaching their economic goals. Among the more traditional indicators, the following may be cited: revenue growth and sales, the number of new customers, markets and strategies, cost management, working capital, return on investment and productivity/efficiency (Venkatraman & Ramanujam, 1986). The performance evaluation has several financial criteria, such as return on investment (ROI), return on sales (ROS), return on assets (ROA), and increased sales and market share. The improvement of these indices that represent the financial performance of companies requires the constant development of strategies that optimize business management across the organization, especially in the supply area, so that the acquisition of raw materials to production processes become more strategic (Vickery *et al.* 2003; Menita *et al.*, 2011).

There are several approaches to the indicators that best represent the financial performance of companies. The correct choice of these indicators will allow partnerships to evaluate the combined performance and identify actions to be performed, based on collaborative relationships seeking to achieve goals of the chain and not individual goals (Aragão *et al.*, 2004). Conceição & Quintão (2004) verified, in order to ascertain whether collaboration with suppliers and buyers influencing the performance of soft drink manufacturers, that the effect of collaboration in performance manifests itself far more effective than financial performance in operational and general. These efforts focus on long-term rather than short-term relationships between buyers and suppliers; companies can help both buyers and supplier reduce their costs with the possibility of achieving a competitive advantage.

Carr and Pearson (1999) identified that strategic purchasing, supplier evaluation systems, and buyer-supplier relationships are in fact important with respect to a firm's financial performance. Chen, Paulraj and Lado (2004) operationalized financial performance for the buying firm by items, indicating the extent of changes in: (1) return on investment; (2) profits as a percent of sales; and (3) net income before tax over the past 3 years. The authors demonstrate robust support for the links between strategic purchasing, customer responsiveness, and financial performance of the buying firm. This demonstrates that purchasing contribution directly to the firm's bottom line is also a vitally important strategic partner in fostering supply-management capabilities, which may generate durable strategic advantage.

Strategic purchasing can have a profound impact on supply chain performance (operational and financial indicators) for both buyer and supplier firms or relational, process, information, and cross-organizational team integration (Paulraj, Chen & Flynn, 2006). Furthermore, face-to-face planning and communication with key suppliers will benefit the buying firm in the long run. In addition, purchasing professionals perceive that suppliers are more responsive to their requirements when a cooperative type of relationship exists. All other things being equal, those firms that pursue cooperative-type relationships with key suppliers can anticipate some improvement in their firm's financial performance (Carr & Pearson, 1999).

3. RESEARCH METHODOLOGY

As reiterated above, the main objective of this study is to investigate which factors of buyer-supplier dyad relate to the financial performance of the manufacturing industry in Brazil. The design that characterizes this research is descriptive and correlational and explanatory, as 174 companies were studied to characterize the profile of the manufacturing industry in Brazil. The prospective study was cross-sectional, because variables were analyzed on a single point in time. The methodological approach was quantitative, through primary data collection, using a survey questionnaire with closed questions. According to Hair *et al.* (2005), quantitative research is an empirical investigation whose purpose is to outline and analyze phenomena, or evaluate programs to isolate key variables.

The target of this research was companies belonging to the manufacturing industry in Brazil that are considered important for the formation of the Brazilian GDP. In addition, these companies represent relevant segments in national economic potential and may be cited segments: automakers, foodstuff (exporters), cleaning and hygiene (multinational), pharmaceutical (MNCs), and other sectors.

The total population of the survey was comprised of approximately 1,200 companies in various sectors of national industry, such as food; automotive; glassware; textiles; pharmaceuticals; steel and metallurgical; hygiene and cleaning products; machinery and equipment; paper and pulp. These industries were selected because they are part of a catalog of

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business buyers of belts and synchronized pulleys, and imported material, represented in Brazil by a single supplier, located in Santa Catarina.

The survey was conducted from January 5, 2011, until April 23, 2012. Answers were collected through questionnaires sent via email directly to the respondents or delivered in personal visits during this period. The objective of this research is to raise the factors of buyer-supplier dyad related to financial performance, thus, the questionnaires were sent to people whose responsibility is to meet and negotiate with their suppliers. Many companies do not have a specific job to buyers; so, the questionnaire possessed a clear instruction about who was able to answer the questions.

In a total of two stages, 1,080 questionnaires were sent electronically. Emails to 120 firms were not delivered successfully. The return evidenced by the emails were 622 read; 36 unread, 238 not successfully delivered. There was also the need to be forwarded 66 emails a temporary absence, there was no other evidence of the procedure adopted in the company. At the end of the survey on April 23, 2012, we received responses to 218 emails and over 97 printed questionnaires. Of the total responses, 174 companies in the universe of 1,200 companies and in some of these companies were more than one respondent, totaling 312 respondents (valid questionnaires), following the same methodology used by the authors Carr and Pearson (1999). It is observed that 03 questionnaires have missing values, so they were removed of the total received (315).

Data were collected through a survey using a translated questionnaire with 16 closed questions on a 5-point Likert model, applied and validated Carr and Pearson (1999). The questionnaire, translated into Portuguese, was performed considering the necessary adaptations to the Brazilian market. Characteristics were considered and presented in the format of questions for analyzing perception of respondents. The validation was conducted with a pre-test: 44 questionnaires sent by emails in the month of January 2011 and 20 printed questionnaires, totaling 64 questionnaires. After the necessary adjustments with the vocabulary translated into Portuguese and endorsement of the respondents, the questionnaire was sent to companies. The constructs represented by their theoretical variables and are presented in Table 1. We replicate the Carr and Pearson model (1999) with the same parameters.

Table 1 – Dimensions of Relationship Buyer-Supplier

Dimensions		Variables	Author
D1	Strategic sourcing	1. Long-term 2. Changes of the company's strategic plans 3. Relationships (commercial / financial /...) with suppliers	Carr and Pearson (1999)
D2	Supplier Evaluation System	4. Certification of suppliers 5. Performance monitoring of suppliers 6. Assessment and recognition of supplier performance	
D3	Buyer-supplier relationship	7. Special arrangements with suppliers 8. Loyalty to the main suppliers 9. Meetings or meetings with key suppliers 10. Direct communication between the top management / managers of the company and key suppliers 11. Exchange system data / information (EDI) with key suppliers 12. Influence on the company by the main suppliers	
D4	Perceived financial performance	13. Return on investment of the company due to the buyer-supplier relationship 14. Improvement in profits from sales due to buyer-supplier relationship 15. Improvement in gross profit due to buyer-supplier relationship 16. Changes in present value / PV company in the last five years	

Source: Carr and Pearson (1999)

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3.1 Common method variance

The dependent variable was collected with the same instrument that was used for our independent variables, so the correlation between them could be an artifact of the method. Thus we followed the suggestion of Podsakoff *et al*. (2003) and Cheung, Myers & Mentzer (2010) and took several procedural measures to control common method bias, such as: (1) different scales were used for dependent and independent variables to reduce method bias caused by scale effect commonalities, (2) we assured respondents' anonymity and confidentiality, and (3) conducting a pre-test and having items reviewed by academians and experts to avoid item ambiguity. In addition to procedural controls, we assessed the presence of common method variance via Harman's one-factor test (Podsakoff & Organ, 1986) by performing a factor analysis on all items, and the test suggests that common method variance did not pose a significant problem.

3.2 Approach to data analysis

In the data analysis, we used SPSS ® version 19, for a descriptive and exploratory analysis. We used Confirmatory Factor Analysis (CFA) to establish dimensionality, validity, and reliability of construct measurement. After this phase, we used the technique of multiple linear regressions to answer the research objective.

Every method has limitations. According to Vergara (2000, p. 59), "It is healthy anticipate the criticism that the reader can do the work, explaining which limitations the chosen method offers, but still justify it as the most adequate for the purposes of research". Given this, considering the Brazilian context, we present as a limitation of the research the universe of respondents, who were employed in most of the tactical and operational level organizations, organization that do not always have effective access to financial statements, income statements, and rates of evolution of the financial companies in five years according to the four dimensions of this research.

4. DESCRIPTIVE DATA ANALYSIS

This section will present the characteristics of businesses, the respondents, and the results of the averages, standard deviations, and correlations of the constructs used.

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Table 2 – Companies Data

	Frequency	Percentage
Operational areas of the companies surveyed		
North	6	3.5%
Northeast	8	4.4%
Midwest	3	1. 5%
Southeast	15	8.8%
South	41	24.0%
National	80	45.9%
More than one region	21	11.9%
Total	**174**	**100%**
Segment of the surveyed companies		
Alimentary	25	14.65%
Textile	14	8.08%
Pulp and Paper	13	7.58%
Steel and Metallurgy	12	7.07%
Automobile	10	5.56%
Machines Manufacturer	9	5.05%
Plastic	9	5.05%
Construction	9	5.05%
Cleaning and Hygiene	8	4.55%
Pharmaceutical	7	4.04%
Other segments	58	33.32%
Total	**174**	**100%**
Number of employees		
Up to 500	63	36.4%
500 to 1000	32	18.2%
1,000 to 5,000	49	28.2%
5,000 to 10,000	10	5.6%
Above 10,000	20	11.6%
Total	**174**	**100%**
Revenue		
Up to 50MI	35	20.2%
50MI to 100MI	31	17.7%
100MI to 500MI	35	20.2%
500MI to 1.000BI	35	20.2%
Above 1.000BI	25	14.1%
Uninformed	13	7.6%
Total	**174**	**100%**

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Table 2 shows that most companies operate in the domestic market, with a rate of 45.9%. They are located predominantly in the southern region with 24%. And, 11.9% perform activities in more than one region. You can see that the north, northeast, and Midwest are those with the lowest number of established companies.

Companies surveyed obtained their segments evenly distributed, with emphasis on the food sector with 14.65%.

The number of employees and turnover variables were used to identify companies' size. It can be seen that 45.40% of the companies employ more than 1,000 employees, indicating that they are large, as classified by Sebrae (2013), which considers large companies as those with more than 500 employees. Classification of companies was determined by BNDES (National Development Bank) (2013), in which groups with revenues up to 100MI are classified as an "average" company and above 100MI are classified as a "medium-large" and "large" company, with the latter groups totaled 54.5 % of the companies surveyed. In Table 3 we present the profile of the respondents.

Table 3 - Respondents Data

	Frequency	Percentage
Sector		
Maintenance / Warehouse	98	31.4%
Shopping / Commercial	166	53.2%
Adm. / Financial	37	11.9%
Board of Directors	11	3.5%
Total	**312**	**100%**
Position		
Auxiliary	63	20.3%
Analyst	138	44.1%
Supervisor / Head chief	86	27.7%
Manager	22	7.1%
Director	3	1.0%
Total	**312**	**100%**
Company time		
Up 1 year	27	8.6%
1 to 5 years	115	36.7%
5 to 10 years	72	23.2%
Above 10 years	98	31.5%
Total	**312**	**100%**
Education		
Through high school	40	12.9%
Graduation	213	68.2%
MBA	59	19.0%
Total	**312**	**100%**

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It is observed in Table 3 that the majority of respondents, a total of 53.2%, belong to the purchasing department. This result is expected, since this is one of the functions with greater contact with a supplier, followed by maintenance industry/warehouse, which in many companies represent the purchasing department, with 31.4%. They represent, together, 84.6% of total respondents.

On the issue of position, most of the respondents are in the sphere of auxiliary or analyst, totaling 64.4%. The questionnaire was sent to the head of the purchasing department, thus, this result indicates that while, even with this being a strategic sector for companies, they have not yet awakened to their real importance in the performance of their business.

Also according to Table 3.54.7% of respondents have over 5 years of work experience and 36.7% have between 1 and 5 years work experience. These results are significant, because the more time working for a company, the more a respondent can understand their activity and also the company it serves. In addition, it was found that 68.2% of the respondents have a higher education, and 19% of the respondents have a MBA, indicating that they are qualified for the sector that acts with the appropriate level for the understanding of the questions referred.

The scales presented in this study were validated and confirmed by Carr and Pearson (1999) and adequately represent their constructs. In Table 4 it is presented the correlation matrix and descriptive data of all sizes used.

Table 4 - Means, standard deviations, and correlations

	Mean	SD	Strategic sourcing	Supplier Evaluation System	Buyer-supplier relationship	Perceived financial performance
Strategic sourcing	4.0	0.98	-			
Supplier Evaluation System	3.75	1.15	0.548**	-		
Buyer-supplier relationship	3.81	0.76	0.519**	0.474**	-	
Perceived financial performance	3.77	0.89	0.450**	0.355**	0.664**	-

***(p<0.10); ** (p<0.05); *** (p<0.01)**

Table 4 shows the results are within the normal relationships between the dimensions worked with significance level <0.01.

4.1 Reliability of dimensions

All dimensions of the Carr and Pearson (1999) model were perceived by survey respondents. A three-stage continuous improvement cycle was used to develop measures that satisfied all the requirements for reliability, validity, and unidimensionality (Chen & Paulraj, 2004). To assess the reliability of the study constructs, we used the average correlation among items in a scale. The Cronbach's alpha values for the variables were well above 0.70 (Hair *et al.*, 2005). Strategic sourcing (0.835), supplier-evaluation system (0.763), buyer-supplier relationship (0.899), and financial performance (0.736).

Confirmatory factor analysis (CFA) was used to assess construct validity and unidimensionality. CFA provides a stricter and more-precise test of unidimensionality of latent constructs. From the original model fit, absolute fit measures were employed in selected cases, such as chi-square likelihood ratio ($\chi 2$) and root mean squared residue, in order to ensure adequate representation of the entire set of relations dimensions causal shown in Table 5.

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Table 5: Chi-square

Chi-square	89.990
Degrees of freedom	39
Probability level	0.000
χ^2/GL	2.307
RMSEA	0.065

A table 5 show what is sought is a value not significant chi-square, since H0 indicates that data fit the model. In case of significant, Hair *et al.* (2005) argues that we can divide the value by the degrees of freedom (χ^2/GL), with 5 or less acceptable values. Complementing the chi-square, the root square error of approximation (RMSEA), which resulted in a value of 0.065, representing quality in model fit was performed, as recommended values vary between 0.05 and 0.08 (Kline, 2005; Brown, 2006, p. 87).

In addition to the measures presented, other measures of incremental adjustment were conducted: Normed Fit Index – NFI (0.960), Tucker-Lewis Index or Non-Normed Fit Index – NNFI (0.967) and Comparative Fit Index – CFI (0.977). Levels of quality adjustments are appropriate, with values above 0.90 (Kline, 2005; Brown, 2006, p. 87).

The model showed levels of reliability and discriminate validity, indicating that each construct is unidimensional. A significant statistical difference chi-square (χ2) for the two models aligned value indicates that the constructs are different and assures discriminate validity (O'leary-Kelly & Vokurka, 1998). Testing of all pairs of constructs was performed, showing a difference in the statistical chi-square (χ2) significantly ($p < 0.05$).

Finally, we have observed the multicollinearity of dimensions with VIF test, to verify if dimensions can be used without any further action. The results showed, D1 - strategic sourcing (1.953), D2 - supplier Evaluation System (1.956), D3 - buyer-supplier relationship (1.648). The standard way to assess the magnitude of the multicollinearity problem is the variance inflation factor (VIF) scores for the variables in each regression model. VIF scores above 10 indicate a serious problem (Cohen *et al.* 2002). VIF scores are below 5 most below 3. These results indicate that multicollinearity is not a major concern, because all VIF scores are below 2.

4.2 Regression analysis

Regression was crafted considering the perceived financial performance scale as the dependent variable and the dimensions strategic sourcing, supplier evaluation system and Buyer-supplier relationship as independent.

The model shows up with significant determination coefficient in that the dimensions strategic sourcing supplier evaluation system Buyer-supplier relationship explained 45.5% (table 6) of the construct financial performance.

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Table 6 – Coefficients

	Beta	Std. Error	t	Sig
(Constant)	1.481	1.159	1.278	0.202
Companies Control Variables				
Industrial sector				
Alimentary	-0.175	0.141	-1.244	0.215
Automobile	-0.518	0.217	-2.390	0.018**
Construction	-0.099	0.303	-0.326	0.745
Pharmaceutical	0.018	0.256	0.069	0.945
Cleaning and Hygiene	0.115	0.213	0.541	0.589
Machines Manufacturer	0.467	0.239	1.958	0.051*
Pulp and Paper	-0.141	0.173	-0.816	0.415
Plastic	-0.497	0.264	-1.882	0.061*
Steel and Metallurgy	-0.257	0.180	-1.423	0.156
Textile	-0.119	0.163	-0.728	0.467
Other segments	-0.213	0.759	-0.281	0.779
Firm Size - Revenue				
Up to 50MI	-0.033	0.213	-0.155	0.877
50MI to 100MI	0.139	0.196	0.706	0.481
100MI to 500MI	0.078	0.195	0.401	0.689
500MI to 1.000BI	0.017	0.195	0.087	0.931
Above 1.000BI	0.043	0.205	0.210	0.834
Dimensions				
D1 - Strategic sourcing	0.228	0.055	4.166	0.000***
D2 - Supplier Evaluation System	0.022	0.048	0.463	0.643
D3 - Buyer-supplier relationship	0.473	0.065	7.309	0.000***
R 0.674				
R^2 0.455				
R^2 (adjusted) 0.367				

*(p<0.10); ** (p<0.05); *** (p<0.01)

We haven't found significant statistic relationship on respondents control variables showing that the financial performance perception is not related with sector where they work, position, time with the company, and education. However, we have found significant statistic relationship on companies' control variables of segment, showing that automobile companies have a lower perception of financial performance, and machine manufacturers and plastic companies have a higher perception of financial performance. The other sectors as well as other companies' control variables do not indicate any significant statistic relationship with financial performance perception.

Finally, the coefficients indicate a positive relationship between the dimensions – strategic sourcing and buyer-supplier relationships - with the company's financial performance dimension. However, the

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supplier evaluation system showed no statistically significant relationship with a Sig quite high.

Strategic sourcing requires an understanding of the needs of both buyer and supplier. It takes an understanding of the nature of their relationship (Menita *et al.*, 2011). Companies that recognize the value of purchasing strategy have an area of proactive purchasing, with skills and resources necessary to carry out operations with strategic level (Carr & Smeltzer, 1997). Furthermore, such companies conduct joint planning, respond to market demand change, and satisfy specific customer requirements on the product (Chiang, Kocabasoglu-Hillmer & Suresh, 2012). Sourcing professionals' activities concentrate on supplier selection and supplier governance (Rai & Hornyak, 2013).

Strategic sourcing requires a long-term orientation and may ultimately create collaborative advantage and bring about greater benefits of collaborative advantage than a traditional non-strategic source-based approach to competition (Chen, Paulraj & Lado, 2004; Chiang, Kocabasoglu-Hillmer & Suresh, 2012). When planning, the buyer sector increases its strategic role, enabling the development of long-term negotiations, which consequently generates relationships that may encourage the development of suppliers through innovation, improved product quality, and reduced costs, among other factors (Conceição & Quintão, 2004; Lima, 2008), promoting value creation in the relationship favoring both sides (Corsten & Kumar, 2005).

The role of purchasing passes from transactional to relational, and this new structure affects the positioning of the sector within the organization; aligned with the company's strategic planning, purchasing actions reflect on its performance. The relational view is extended to relational capabilities form the basis of durable strategic advantages (Dyer and Singh, 1998).

The relationship implies that, in order for a supply chain as a whole to perform well, firms should try to create collaboration to achieve business synergy and compete with other chains (Paulraj, Chen & Flynn, 2006). Another key factor is collaborative communication to effectively manage buyer–supplier relationships for mutual benefits (Chen, Paulraj & Lado, 2004; Paulraj, Lado & Chen, 2008; Cao & Zhang, 2011). Relationship development includes enhancing cooperation, problem solving, and expressing the commitment, loyalty, and desire to continue the relationship for many years into the future (Prahinski & Benton, 2004).

Collaboration with suppliers can provide elements of optimization and cost reduction (Carr & Pearson, 1999; Conceição & Quintão, 2004; Chen, Paulraj & Lado, 2004; Paulraj, Chen & Flynn, 2006). It is important that the purchasing department can demonstrate how they, through the buyer-supplier relationship, may increase the company's financial performance. Companies that prioritize this relationship, according to Cohen and Silva (2000), perceive improvements in financial return on their investment and indexes higher financial performance (Carr & Pearson, 1999).

However, collaborative communication includes indirect influence strategy, formality, and feedback. This formalization in the buyer-supplier relationship involved legal borders of the activities of the development process (Sobrero & Roberts, 2001). Supplier evaluation system can be improved the products or services they receive from their suppliers (Neely *et al.*, 1997; Prahinski & Benton, 2004). But for this, the buying firm needs to quantify and communicate the measurements of the discrepancy between its current performance and the buying firm's expectations (Prahinski & Benton, 2004).

The lack of formalization in the buyer-supplier relationship, contracts, or evaluation system for the coordination of the relationship as well as mechanisms and procedures to ensure the exchange of information on certifications, supplier performance, and product development and partnerships, make it difficult to measure how important is the supplier for company (Sobrero & Roberts, 2001).

In contrast with results found by Carr and Pearson (1999), in which formal communication of supplier evaluations positively influenced supplier evaluation system, the results of this regression show that formalization and evaluation systems suppliers are still in the early stages. This shows how much the buyer-supplier relationships are informal in the manufacturing industry in Brazil. This fact generates insecurity in the commitment of the relationship, negatively influencing knowledge exchange, shared learning, and confidence in the relationship of dyad. The other results of the survey were consistent with Carr and Pearson (1999).

5. CONCLUSION AND FURTHER RESEARCH

Our study contributes to and continues a growing research stream about dyad buyer-supplier and its relation to financial performance. Specifically, it in-

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vestigates the relationships among strategic sourcing, supplier-evaluation system, buyer-supplier relationship, and perceived financial performance.

The objective of this study was to raise which practices of buyer-supplier dyad are related to the financial performance of the manufacturing industry in Brazil. The results showed a positive relationship between the dimensions--strategic sourcing and buyer-supplier relationships--with the company's financial performance dimension.

The procurement planning considers the existence of formal planning long-term, if it is reviewed regularly and includes various forms of relationship between buyer and supplier. Through the perception of the respondents, the Brazilian manufacturing industry demonstrates a high level of planning in purchasing. In the analysis of the relationship between buyer and supplier, the data showed that the special agreements with suppliers and fidelity are considered important factors, followed by the influence of the largest suppliers and communication between senior management and key suppliers.

The positive outcome of these two dimensions--strategic sourcing and buyer-supplier relationships--with the company's financial performance is justified when considering the increasing reliance of businesses upon their suppliers, and therefore the need for more planning and better relationships near the dyad. However, this study also showed that the supplier-evaluation system showed no statistically significant relationship with financial performance. This result reinforces the lack of formalization in the buyer-supplier relationship, a situation that often hinders the development of a long-term relationship. The lack of systematic evaluations of supplier performance can generate insecurity in the relationship, since historical actions taken by suppliers could serve as a criterion of choice in a future negotiation.

As practical contributed to this study, it is expected that managers understand the importance of buyer-supplier relationship to the company's financial performance. More specifically, it is important that they perceive the importance of evaluating their suppliers. The evaluation of suppliers is an important practice to qualify and improve.

For further research, it appears that other sectors should be studied, and they should be analyzed by the buyer-supplier dyad; construct financial performance could be measured based on financial data and non-perception as used in this study, and the relationship of control variables (automobile, machines manufacturer, and plastic) with financial performance could be worked on a qualitative view.

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