

Open-book accounting and trust: influence on buyer-supplier relationship

Accounting
and trust

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Abstract

Purpose – This paper aims to discuss the role of open-book accounting (OBA) and trust on buyer–supplier relationship satisfaction. The objective of this paper is to analyze how OBA and trust influence satisfaction on the relationship between suppliers and buyers in the Brazilian automotive sector’s supply chain.

Design/methodology/approach – The research has been developed based on a qualitative strategy, characterized as explanatory. Data gathering has been conducted through document analysis and semi-structured interview, and content analysis has been used for discourse analysis.

Findings – Results show that OBA is unilateral, imposed by the auto manufacturer, representing a selective information process, as suppliers try to protect their information value as far as possible. Trust is partial and cooperation is not spontaneous, both driven by the search for benefits. OBA may yield a positive or a negative outcome with regard to the social and the economic overall satisfaction of suppliers, depending on how the information is used by auto manufacturer.

Originality/value – The main contribution of this article is to provide an understanding of the difficulties of applying the OBA in companies and of the factors that may influence its operation and performance, impacting on satisfaction and continuity of relationships. The paper also contributes with the proposal of a clearer and more objective definition of OBA. Being the intention that new research in this area can be developed from a delimited, clear and objective definition of OBA, allowing better understanding on the subject and comparison among research studies.

Keywords Trust, Costs strategic management, Inter-organizational cost management

Paper type Research paper

Introduction

Companies have shown increasing interest in business networking. According to [Kulmala et al. \(2002\)](#), it occurs as a result of globalization and the fact that companies must manage their costs to sustain decreasing prices indexes. Many companies have developed strict and cooperative relationships with suppliers and buyers ([Cooper and Slagmulder, 2004](#); [Kajüter and Kulmala, 2005](#)). According to [Windolph and Moeller \(2012\)](#), companies are increasingly



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passing on to external suppliers activities that are not connected with their essential competencies to gain and keep competitive advantage, decrease costs and speed up product development.

Cost management practices end up beyond the company's borders (Cooper and Slagmulder, 1999, 2004; Kulmala *et al.*, 2002; Dekker, 2003; Kajüter and Kulmala, 2005). Literature shows that the relationship between companies influence the adoption of management cost techniques that go beyond the company's boundary (Cooper and Slagmulder, 2004).

Cost information is confidential (Kajüter and Kulmala, 2005), which explains why it is difficult for companies to share it. open-book accounting (OBA) is one of the tools used for interorganizational cost management (IOCM) to manage costs efficiently to decrease costs, generate benefits for the partners (Kajüter and Kulmala, 2005), control collaborative events (Tomkins, 2001; Kajüter and Kulmala, 2005) and enhance relationship between the parties in supply chains (Romano and Formetini, 2012). Therefore, according to Di and Wang (2017), OBA positively impacts IOCM. According to Morgan and Hunt (1994), Kulmala (2004) and Agndal and Nilsson (2008), costs information sharing may increase trust, commitment and cooperation levels (Mahama, 2006) between buyer and supplier.

To achieve efficient information sharing, the parties must be satisfied with their relationship and trust that such information is not being used opportunistically. Otherwise, it may cause dissatisfaction, as in a unilateral behavior, (Windolph and Moeller, 2012), because of information asymmetry issues that increase transactional costs (Williamson, 1975, 1985). On one hand, according to transaction costs economics (TCE), OBA increases efficiency of the transaction by reducing costs; on the other hand, it allows opportunist behavior if unilaterally applied, increasing transaction risk and costs as it increases monitoring costs (Windolph and Moeller, 2012). Information sharing between companies may have a positive or a negative impact on their relationship.

Satisfaction key factors aim at delivering satisfaction so that the relationship is enduring. Voldnes *et al.* (2012) say that the study of necessary factors to achieve satisfaction in a buyer-supplier relationship has been a central subject in literature. Among those factors, mutual trust and information sharing through OBA will be emphasized as previous research studies show that these are key components for a successful relationship between buyers and suppliers (Carr and Ng, 1995; Ellram, 1996; Seal *et al.*, 1999; Kulmala, 2002; Axelsson *et al.*, 2002; Tomkins, 2001; Dekker, 2003; Langfield-Smith and Smith, 2003; Kajüter and Kulmala, 2005; Rodríguez Agudo and Gutiérrez, 2006; Nyaga *et al.*, 2010; Abinajm Filho, 2011; Hoffjan *et al.*, 2011; Voldnes *et al.*, 2012).

The automotive sector supply chain has been studied for the present research, as it is pioneer in several managerial concepts, techniques and technological innovation, which are used by companies from different sectors, highlighting its importance to the development of companies in general. The automotive sector is one of the most relevant for the industry sectors as it is considered an important employment and income source (Pires, 1998; Marini, 2003; Guarnieri *et al.*, 2009; Pires and Sacomano Neto, 2010; Abinajm Filho, 2011).

In the face of the issues presented and considering the lack of empirical studies approaching OBA and trust influence over interorganizational relationship satisfaction through a dyadic perspective, the general objective is to investigate how OBA and trust influence relationship satisfaction between suppliers and buyers on the automotive sector supply chain, from the perspective of TCE.

OBA and trust critical aspects, which may consequently impact relationship satisfaction, such as the risk of opportunism, specificity of assets invested and need to establish safeguards are considered in TCE. Thus, this study may contribute to reinforce such theory.

The present study is justified by the lack of studies analyzing OBA on a dyadic perspective. This research aims to broaden knowledge regarding literature about OBA in interorganizational relationships and how it is influenced by the relational context. Therefore, the findings should contribute to understand difficulties to apply this instrument on companies and factors that may influence its operation and performance, impacting on satisfaction and continuity of relationships. It is also intended to contribute to companies' managers from the automotive sector as the successful application of OBA may aid in competitive advantage creation, as this sector is under a lot of pressure for costs reduction.

As there is a lack of agreement about OBA definition on the literature, it is also expected to contribute with the proposal of a clearer and more objective definition of it. Being the intention that further research studies on this field may be developed based on a delimited definition of OBA, allowing better understanding on the subject and comparison among research studies.

The work is structured in four sections, plus introduction. The first section approaches literature review; the second section presents the methodological aspects; the third section presents the analysis, results interpretation and discussion; and the last section presents the final considerations.

Literature review

Buyer-supplier relationship

Transactional relations are discrete relations (Morgan and Hunt, 1994) characterized by limited communication and restricted content. The parties' identity is usually ignored or relations have no continuity (Dwyer *et al.*, 1987), personal relations are minimum, with no joint efforts and short lasting (Macneil, 1978). This kind of relationship is a simple commercial relation with no intention of becoming a strict and long-lasting connection as it happens in common and auxiliary relationships (Cooper and Slagmulder, 1999, 2004) in which the application of a IOCM, as well as OBA, is damaged.

Agndal and Nilsson (2010) observe that relationships based on transactional buying strategies present low specificity investment, low commitment degree, focus on self-benefits, lack of dependence by buyer, a lot of alternatives for suppliers, limited importance input for buyer, buyer's opportunistic behavior, etc. OBA is applied to supplier's assessment, characterized by a controversial environment; and incentives are based on short-term earnings. The objective of information sharing is to facilitate suppliers monitoring instead of supporting planning and coordination of joint activities (Tomkins, 2001; Agndal and Nilsson, 2010).

By contrast, cooperation-oriented relations refer to interrelated exchanges revealed over time. In this context, each transaction must be analyzed considering its history, and future collaboration is based on trust and planning. By means of repeated transactions, parties have shown trust and stated amicable and reciprocal rules in the relationships (Macneil, 1978). Choi and Wu (2009) state that companies have long-term commitment, have the same objectives, interact frequently, share information and present higher level of trust and commitment in this kind of relationship.

Relationships based on interrelates purchases strategies are, according to Agndal and Nilsson (2010), characterized by significative specific investment, high level of commitment, focus on mutual benefits, critical product for buyer, few alternative of suppliers, interdependence, mutual trust, etc. OBA is used to reduce costs by developing the product together; the environment is less controversial and supplier gains long-term benefits. Cooperation-oriented relationships present a favorable environment to apply cost information management and sharing between companies. According to Cooper and

Slagmulder (1999, 2004), the above-mentioned features are found in relationships classified as main and familiar.

Brito and Mariotto (2013, p. 244, translated) propose that:

Cooperation refer to situations in which separated parties work together to reach mutual or individual objectives in a reciprocal way over time that would not be economically achieved if they acted in isolation.

One party commits with the other when it realizes that it will enjoy long-term advantages from knowledge, experience, ability and resources presented by the other party (Jonsson and Zineldin, 2003; Brito and Mariotto, 2013); it is expected to gain benefits to engage in cooperation.

Balestrin and Verschoore (2014) highlight selfish cooperation, that is, practiced by selfish individuals (not altruistic) in which there is collective action although certain conditions must be met such as the will of achieving a certain benefit that would not be achieved if the party acted by itself. Therefore, cooperation among not altruistic individuals occurs from a common interest between the parties of a relationship when they realize that the common interest can only be achieved if they work together. Thus, selfish cooperation emerges from intentional actions between independent players to reach individual and collective objectives simultaneously.

Buyer–supplier relationship in the automotive sector

In this sector, new relationship standards between auto manufacturers and suppliers have led the auto parties supply structures into a ranking process (Di Serio *et al.*, 2007; Vanalle and Salles, 2011) by reducing the number of auto manufacturers' suppliers (Soares, 2011), which started to provide subsets in modules or systems. Consequently, these suppliers have settled near the auto manufacturers, thereof the importance of their location (Vanalle and Salles, 2011; Martins *et al.*, 2012a). According to Soares (2011), auto manufacturers have started to focus on activities that provide higher value-added and competitive advantage by restructuring and strengthening their supplier base and selecting the ones to build a strict relationship.

The automotive sector is one of the most important for the industry sectors, as it is an important employment and income source; moreover, the sector is also pioneer of several managerial concepts/techniques and technological innovation (Pires, 1998; Marini, 2003; Guarnieri *et al.*, 2009; Guarnieri and Hatakeyama, 2010; Pires and Sacomano Neto, 2010; Abinajm Filho, 2011). The automotive industry is considered a basic source of orientation for practices that prioritize relations (Martins *et al.*, 2012b).

Guarnieri *et al.* (2009) state that the automotive sector is constantly pressured for cost reduction, improvement on quality and assistance processes, reduction on products' life cycle, meeting new markets and managing its supply chain.

Changes in the automotive industry have led suppliers to fit their production processes to the auto manufacturers' demands and, as a consequence, have determined better activities coordination, better integration and interaction among the supply chain's members (Scavarda and Hamacher, 2001; Vanalle and Salles, 2011).

Open-book accounting

Windolph and Moeller (2012) affirm that OBA means a subset of information exchange; whereas Noordewier *et al.* (1990) state that, at some point, every transaction involves information sharing between suppliers and buyers.

Although these aspects are true, they are not enough to characterize OBA objectively. Sharing information not only distributes supply and demand of information among the members of the supply chain but it also includes cost information sharing, which is usually kept in secret by any company (Kajüter and Kulmala, 2005).

Kulmala (2003) highlights that, by practicing OBA, a company reveals its cost structure to another, thus showing commitment with the future of their relationship, strengthening its position as supplier or buyer among competitors, learning about the other company's operations and conducting efforts for costs reduction. Souza (2008, p. 39, translated) defines OBA as "a managerial instrument of private information sharing, relevant in the interorganizational management process".

Caglio and Ditillo (2012) consider OBA as all confidential information from Managerial Accounting exchanged between collaborative companies. However, according to Seal *et al.* (1999), as well as Carr and Ng (1995), OBA is not always applied based on trust and partnership – it can often be forced – as it generally occurs in the automotive industry.

Sadeghi and Jokar (2014) state that OBA is an accounting technique in which a company discloses details related to costs data for especial partners, however the authors do not specify "especial partners".

According to the authors of the present work, OBA is a kind of information sharing between companies and they define it as a *process of information sharing, initially confidential, related to costs, processes and activities, between parties in a relationship, aiming at costs management*.

Kajüter and Kulmala (2005) and Kulmala *et al.* (2002) consider that the main purpose of OBA is to enhance the efficiency of interorganizational costs management by revealing the potential for costs reduction by means of joint actions between buyers and suppliers. According to Agndal and Nilsson (2008), the main purpose of OBA is to allow collaboration between buyer and supplier, in a way that they work together to eliminate waste and add value for both. Likewise, Di and Wang (2017) agree that OBA positively impacts interorganizational costs management.

Alenius *et al.* (2015) ensure that OBA plays a key role in the establishment and management of closer relationships between buyers and suppliers. DhaifAllah *et al.* (2016) confirm it when they verify that OBA, as well as IOCM, enhance interorganizational relationships mainly when the parties establish interrelated safeguards to repress opportunistic behavior.

According to Dekker (2003), sharing costs information may be harmful to the supplier, as the buyer may use the information for his own benefit in a price negotiation. Thus, the supplier becomes more vulnerable to the buyer's opportunistic behavior (Munday, 1992; McIvor, 2001; Dekker, 2003). Romano and Formetini (2012) highlight that, in such situation, the supplier may see OBA as the buyer's attempt to reduce prices.

Power asymmetry may negatively influence the chance of using OBA, as the party with less power may be afraid of exploitation, whereas the party with more power may not perceive a reason for collaborating with the less powerful party (Piontkowski and Hoffjan, 2009).

Ellstrom and Larsson (2017) state that when buyer allows the supplier to increase prices because of changes in its costs, there is a more efficient application of OBA by the consequent increase in cooperation.

In most cases, OBA has occurred only from the supplier to the buyer as it happens in the automotive sector (Soares, 2011; Windolph and Moeller, 2012). In general, such situation probably occurs because the buyer exerts more power over the supplier, like the supply

chain collaboration found in a tyranny (Cooper and Slagmulder, 1999; Souza, 2008; Souza and Rocha, 2009).

Satisfaction in the relationship between buyers and suppliers

According to Wipple *et al.* (2010), the collaborative relationships provide greater benefit when compared to relationships transaction-oriented only, as such benefits include performance improvement along with general satisfaction regarding the relation and its results. Voldnes *et al.* (2012) highlight that the success of a partnership relationship depends on the parties' satisfaction, which is related to the quality of collaboration, economic and financial gains (Windolph and Moeller, 2012).

Satisfaction is a key factor on relationships management (Voldnes *et al.*, 2012) and "composes a vital importance construct to explain any type of relation between two or more participants" (Sanzo *et al.*, 2003, p. 329, translated). Field and Meile (2008) observed that strong relationships with suppliers have been associated with higher satisfaction and performance. Satisfaction appears as a pre-requirement to develop and maintain long-lasting relationships and it can be divided into two types: focus specially on the economic aspects of the relationship and focus on non-economic aspects, the terms of which have been proposed by Geyskens *et al.* (1999).

Geyskens *et al.* (1999) state that economic satisfaction is a positive affective response from the members of the channel to the economic rewards that flow from the relation with the partner such as increase in sales volume and markup. On the other hand, non-economic (Geyskens *et al.*, 1999) or social (Geyskens and Steenkamp, 2000) satisfaction refers to positive affective response from a member of the channel with the psychosocial aspects of the relation in which interactions with the exchange partners are met, gratifying and easy. Therefore, such dimension is based on subjective aspects such as social contact, communication or shared values (Dekker, 2004; Rodriguez *et al.*, 2006).

Nyaga *et al.* (2010) evaluate satisfaction through two different constructs, following Geyskens *et al.* (1999): economic and non-economic satisfaction. However, they suggest other nomenclatures: satisfaction with the relationship such as participation in decision-making, commitment, information sharing, coordination and activities management, that is, non-economic satisfaction; conversely, the economic satisfaction refers to the results focused on performance features such as profitability, market share and sales increase.

The present study adopts the assessment of satisfaction with the relationship from suppliers and buyers, according to both dimensions proposed by Geyskens *et al.* (1999), Nyaga *et al.* (2010) and Windolph and Moeller (2012):

- *economic satisfaction*, concerning the assessment, by the parties, of economic, financial and asset results of the relationship such as market share, sales growth and markup; and
- *social satisfaction*, concerning the assessment by the parties of psychosocial aspects such as participation on decision making, commitment with the objectives, information sharing, including the quality of information shared (Kulmala *et al.*, 2002), coordination, management of processes and activities, and quality of the collaboration.

Satisfaction and open-book accounting

Information sharing among companies from a value chain is, at first, an important factor to develop successful relationships leading to parties' satisfaction and creating competitive

advantage in relation to competing value chains. But, if on one hand, according to TCE principles, information sharing increases the efficiency of transactions and reduces costs, on the other hand, opportunistic behavior may be enhanced when they are unilaterally applied, raising transaction risks and costs because of the increase of monitoring costs.

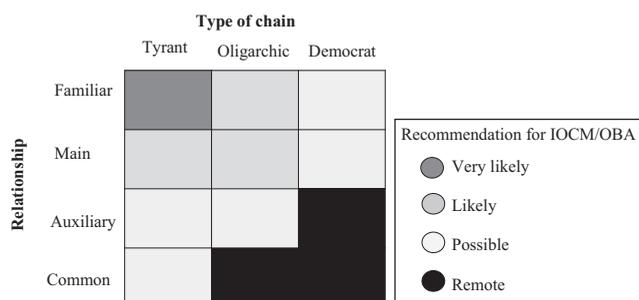
Therefore, unilateral sharing of cost information (considering that, as a general rule, only suppliers make information available) may increase suppliers' vulnerabilities regarding potential opportunism from buyers. This, in turn, significantly influences not only suppliers' perception in relation to OBA benefits but also their satisfaction with the relationship (Windolph and Moeller, 2012). So, OBA may influence, both positively and negatively, on economic and social satisfaction with the relationship.

However, Windolph and Moeller (2012) highlight that safeguards against possible opportunistic behavior are especially relevant to analyze suppliers' satisfaction with OBA, as they attenuate opportunism risk by assuring buyers that their data will be used in a constructive way.

Under these circumstances, although the link between OBA and satisfaction may seem unlikely in most of the cases – especially in the automotive industry – this is not true for 100 per cent of chains and not even for 100 per cent of companies in the automotive sector. It is not always that automotive industries force their suppliers to unilaterally provide information, as it depends on the strength relation. In the current research, the auto manufacturer under study is weaker than some of its suppliers (tires, for instance); consequently, it cannot force them to provide information and has to accept low level of information details (which are made available bracketed into different types of tire).

Concerning this phenomenon, Souza and Rocha (2009) – although without clearly mentioning the automotive sector – note that the type of chain (tyranny, oligarchy and democracy) in which the company is inserted allows to verify higher or lower probability of IOCM application and, consequently, OBA. Practicing both processes is more feasible in tyrant or oligarchic chains, because of their main characteristics. In these types of chains, the tyrant or oligarchic company may address such processes. Therefore, the more the company presents characteristics similar to the chain of tyranny, the more likely and viable will be the application of the IOCM and the OBA.

Still, it is also necessary that there is an enabling relationship including interdependence, stability, cooperation and trust aspects. So, in face of relationship taxonomy (common, auxiliary, main and familiar), the closer a relationship is, most probable and feasible to IOCM and OBA practice, as shown in Figure 1.



Source: Adapted from Souza and Rocha (2009, p. 114)

Figure 1.
Analysis matrix for
IOCM/OBA
application:
relationship level and
type of chain

It is observed that when the base of a relationship is not trust, as it happens in most part of the cases, that part of the chain does not have any competitive advantage in relation to other chains in which relationships present this aspect as a base. In this context, contemporary artifacts of strategic cost management, IOCM and OBA become important, as companies that apply them tend to get and keep competitive advantage comparing to those companies that do not do the same.

Even to test falseability of the belief that information sharing between supplier and client in the automotive sector is unlikely or impossible, this study has focused on a sector in which, generally, strengths are unbalanced. That is because if a supply chain with more balanced power relation had been chosen, results would be trivial and predictable.

Considering the importance of trust on closer relationships and its influence on satisfaction, their characteristics – considering TCE context – are presented in the next section.

Trust in the context of transaction costs economics

Although TCE does not approach in a systematic way the trust in relations, Oliver Williamson has shown interest in the issue, as in his work of 1996, on which he dedicated a chapter to it, named “Calculativeness, Trust and Organization Theory”, to discuss trust and calculativeness in relationships. Williamson (1996) states that TCE refers to contract mechanisms as a consequence of the risk of opportunistic behavior, or its absence, instead of trust, or its absence.

The author argues that it may be a mistake to use the entry “trust” to describe the commercial exchange for which low cost safeguard has been created as a support for the most efficient changes. Thus, for TCE perspective “trust is understood as a vague and useful entry for economic exchange” (Ladeira *et al.*, 2009, p. 53).

The context of TCE in which trust appears, as considered by Ladeira *et al.* (2009), is the one concerning governance structures, in which transactions are made and the agents’ opportunistic behavior arise. Thus, trust would be associated with opportunism as the economic agents are guided by not only their individual interests but also the self-interest with avidity (opportunistic behavior).

Williamson (1996) ensures that there is no pure trust. The transactions have some kind of safeguard, whether it is contractual, legal, reputational or institutional that protects the transaction; hence, there is no transaction without safeguard. In practice, in the view of the author, there is a calculative trust which has an impact on the decision of cooperating or not. Therefore, it does not concern spontaneous cooperation: companies would act in a way of protecting the value of their information to the possible extent.

Previous studies

The main purpose of the OBA is to enhance the efficiency of the interorganizational costs management, revealing the potential of costs economy of joint activities between buyers and suppliers (Kajüter and Kulmala, 2005; Kulmala *et al.*, 2002). Few research studies have risked to investigate the extent of OBA’s implementation influence on the satisfaction of the parties in a relationship (Windolph and Moeller, 2012). That is probably because OBA is a recent practice, according to Kajüter and Kulmala (2005); it has arisen with the advance of lean manufacturing by Japanese companies in the 90’s.

As per Table I, there is a lack of studies on the influence of OBA and trust on the satisfaction of the parties concerning interorganizational relationship, considering if such influence depends on other factors of the relation context. Only three studies have considered satisfaction in the relationship (Kulmala *et al.*, 2002; Nyaga *et al.*, 2010; Windolph

Table I.
Studies on OBA and
satisfaction: main
results and gaps

Author(s)/ Year	Objectives	Main results	Gaps
Kulmala <i>et al.</i> (2002)	To verify the types of challenges presented by networking for costs management	It has been observed that most of the suppliers do not share their data because of because of their poor costs accounting	Aspects of OBA's relation context, which may affect the satisfaction of the parties in the relationship have not been considered; also, IOCM has not been contemplated
Nyaga <i>et al.</i> (2010)	To exam the precedents of performance and satisfaction on a dyadic perspective and, still, to investigate similarities and differences on buyers' and suppliers' perception regarding such precedents and the results of the collaboration relations	It has been observed that collaborative activities lead to trust and commitment, which in turn improve satisfaction and performance; buyers focus on results and suppliers focus on safeguarding their specific assets	The IOCM analysis has not considered the influence of specific assets invested, of opportunistic behavior and of safeguards
Windolph and Moeller (2012)	To verify the extension through which OBA (unilateral) influences on satisfaction on the relationship, while responsible for IOCM's influence	The findings have shown that unilateral sharing of information may negatively influence on supplier's satisfaction with the relationship; and the social standards of the relationship significantly understates the negative effect of OBA on the satisfaction	The investigation occurred only on the suppliers' perspective and trust and specific assets analysis have not been considered

and Moeller, 2012). Table I shows the objectives, results and gaps presented on the above-mentioned studies.

Although in the automotive sector both auto manufacturers and their suppliers are usually global (Kulmala *et al.*, 2007), it is important to investigate satisfaction in the relationship with OBA of such players settled in Brazil, considering that cultural differences influence precedents of satisfaction such as trust, communication/information sharing, dependence and commitment (Voldnes *et al.*, 2012).

Research path

Data gathering

The automotive sector supply chain has been studied for the present research since it is one of the most relevant for the industry sectors, as it is considered an important employment and income source. According to Pires (1998), Marini (2003), Guarnieri *et al.* (2009), Pires and Sacomano Neto (2010) and Abinajm Filho (2011), this sector is pioneer in several managerial concepts, techniques and technological innovation, which are used by companies from different sectors, highlighting its importance to the development of companies in general.

One auto manufacturer and three direct suppliers were analyzed as the study aimed at conducting an investigation on a dyadic relation. The choice of companies was intentional (non-probability sampling). Although the auto manufacturer is not among the biggest ones of the sector in Brazil, this company has important representativeness, even because of its brand.

The suppliers have been referred to by the auto manufacturer, meeting the demand of being first tier and different profiles. So, one of the suppliers is one of the world's leading tire manufacturers, with exclusive supply to the auto manufacturer, the other supplier is the world's leading wheel manufacturer and the third supplier is a subsidiary of an Asian group which manufactures harness, however such division has facilities only in Brazil.

Data gathering has been conducted through document survey and semi-structured and in-depth interviews. Yet, as the research has been conducted on a dyadic perspective, it was possible to crosscheck and compare (cross-comparison) various data obtained through interviews in both the auto manufacturer and suppliers, which has contributed to enhance data reliability.

A data collection instrument has been developed for the interviews based on subjects that compose the study objective, and questions were separated in sets by type of subject. The instrument underwent a pretest to verify its applicability and need of adjustments, which was done with broad experienced professional in the automotive sector who has worked for many years as an auto manufacturer executive, besides being a professor and scholar in the field of interorganizational relationships. Some points that needed adjustment have been identified, those were discussed and then applicable changes were done.

The objective of document survey was to get information about the companies. Information has been collected from public sources such as magazines from the automotive sector and companies' official websites. Internal documents from the companies have also been reviewed such as cost sheets, supply contracts, suppliers performance index (SPI) sheet, which evaluates the suppliers' performance regarding supply to the auto manufacturer, and purchase ledger, monthly report issued by the auto manufacturer showing its performance, indexes follow-up, as well as data of the suppliers such as their position concerning billing, monthly purchase volume by supplier, adjustment of costs granted in the period, among others.

The relationship of the Brazilian auto manufacturer Alfa with its suppliers is carried out by the purchasing manager, a member of the supply department, who is responsible to contact the supplier's sales manager. The semi-structured and in-depth interviews have been conducted with the purchasing manager of the auto manufacturer and sales managers of suppliers.

The interviews occurred between September 2014 and June 2015, in the respective companies, except for the interview with the accounts manager of Gama Supplier, which took place at Alfa Auto Manufacturer; all interviews have been recorded under authorization of the respondent and further transcribed. Three visits have been made to Alfa plant for interviews and document review, and the visits lasted two hours or more.

Table II presents information about the respondents, duration of the interview and time for document analysis.

The data gathering instrument has been submitted to a pretest, to verify its applicability and need of adjustment. Whenever possible, previously tested and approved questions from previous studies have been used to reduce response errors (Van der Stede *et al.*, 2005, 2007). Two different scripts for interview have been prepared according to the position of the relationship as it was a dyadic study.

Data processing

As this is a qualitative study, the content analysis, a category technique (Bardin, 2011), has been used to analyze the interviews.

The category technique is the eldest and most used one. It is also named thematic analysis; such technique concerns the analysis of the meanings to interpreter

Position in the relationship	Respondent	Position	Time in position (years)	Time in the sector*	Duration of interviews**		Time for document review**
					Originals	Complementary	
Alfa Auto Manufacturer	Alfa respondent	Purchasing Manager	4	27	66:01	48:42	252:24
Beta supplier	Beta respondent	Sales Manager	1	1	54:13	16:39	
Gama Supplier	Gama respondent	Account Manager for Auto Manufacturers	7	18	124:53	–	
Delta supplier	Delta respondent	Commercial Manager	1	14	44:45	61:39	
Totals					289:52 416:52	127:00	252:24

Notes: *Approximately **Minutes: Complementary interviews have been made by phone, except for the purchasing manager of the auto manufacturer, which was conducted in the auto manufacturing plant; The supply contracts with the three suppliers have all been analyzed in the auto manufacturing plant

Table II.
Data of the interviews

communications. It consists of partitioning the text into units represented by the categories, which allows the encoding units' classification into categories of elements of signification.

Functionality of the analysis categories. According to Zylbersztajn (1995), the behavioral assumption of TCE – limited rationale and opportunistic behavior – allows to analyze the dynamic characteristics of the contracts, tradition aspects, trust, family relations and social environments that restrain opportunistic actions. In the case of trust, it is expected that buyers and suppliers that trust each other will be more satisfied with the relationship and will make an effort to ensure its continuity (Nyaga *et al.*, 2010).

It is also expected that mutual trust enhances OBA, as it tends to reduce the chance of inappropriate use of information (Kajüter and Kulmala, 2005). Thus, trust would have the potential to repress opportunistic behaviors and so minimize transaction costs in interorganizational relationships (Dyer, 1997; Dyer and Chu, 2000, 2003; Claro *et al.*, 2005; Claro and Claro, 2008).

Aiming to verify how OBA and trust influence the satisfaction of the parties with the relationship, the categorization and analysis were supported by TCE. To facilitate the analysis of the interviews and achieve the general objective of this study, the identification of categories and subcategories of the variables investigated are presented in Table III.

Therefore, the categorization of the passages of the interviews has been done according to the variables described in Table III.

The software QDA Miner (test version) has been used for the categorization process, the function of which is to encode, take notes and analyze documents as well as images.

Development, analysis, interpretation and discussion of the results

Description of the companies

Table IV presents the main features of the companies studied. To keep information about the auto manufacturer and supplier confidential, some information has been omitted and their names have been changed, using the names Alfa Auto Manufacturer, Beta Supplier, Gama Supplier and Delta Supplier.

In the next topic, the characterization of the relationships is presented.

Investigated variables (Main authors)	Categories	Details
OBA Fehr (2015)	Dimensions of OBA	Nature of information Type of information Frequency of information sharing Level of detail of the information Direction of information sharing Purpose of use of the information (by the buyer) Purpose of use of the information (by the supplier) Processes contemplated Means of communication Costs determinants contemplated Conditions of information sharing Incentives for sharing information Interorganizational teams
IOCM Cooper and Slagmulder (1999, 2004) Windolph and Moeller (2012)	Development of joint activities	Joint processes for costs management Joint planning for problem solving Promises' fulfillment
Trust Kumar <i>et al.</i> (1995a, 1995b), Nyaga <i>et al.</i> (2010)	Honesty	
	Generosity	Availability to offer assistance and support Protection of the other party's interest
Satisfaction in the relationship Geyskens <i>et al.</i> (1999), Kulmala <i>et al.</i> (2002), Nyaga <i>et al.</i> (2010), Windolph and Moeller (2012)	Economic satisfaction Social Satisfaction	Sales and profits created by the relationship Market share resulting from the relationship Quality of the information shared Quality of collaboration Participation on decision-making related to the relationship
Assets specificity Williamson (1985, 1996), Zylbersztajn (1995), B́ankut and Souza (2014) Safeguards Williamson (1996), Jap and Ganesan (2000) Windolph and Moeller (2012)	Level of redistribution of an asset for alternative use Formal or informal rules and standards	Investment on specific assets Assets reallocation/redistribution Lost of value on investments under breach of contract Formal safeguards Informal safeguards Flexibility to provide support to each other Set mutual benefits
Opportunistic behavior Williamson (1985, 1996), Windolph and Moeller (2012)	Self-interest (with avidity)	Inappropriate use of information shared Breach of agreements (formal and informal) in self-benefit

Table III.
Categorization of the variables investigated

Characterization of the relationships

Alfa Auto Manufacturer has around 300 suppliers, and about 150 of them are called productive, that is, directly connected to the production. The company classifies its suppliers using ABC curve in relation to the monthly purchases: the auto manufacturer sums, for each supplier, all bills of the products delivered and thus the result is how much each supplier has billed for the company in the month. Suppliers classified as “A” are those with higher billing

Companies	Alfa Auto Manufacturer	Beta Supplier	Gama Supplier	Delta Supplier
Branch of activity	Manufacturer of passenger car and light commercial vehicle	Manufacturer of electric and electronic components (plates and harnesses), and panel mounting for the automotive industry	Manufacturer of aluminum and steel wheels for the automotive industry	Manufacturer of tires for the automotive industry
Legal structure	Limited Company	Limited Company	Joint Stock Company	Limited Company
Capital origin	Brazilian capital, but uses the trademark of a huge Asian auto manufacturer	Asian capital	Brazilian capital	Italian capital
Billing (2014) (US\$ quotation from 5/17/2017)	Around R\$4,500m (research data) (approximately US \$1,448m)	Around R\$260m (research data) (approximately US \$84m)	R\$5,911.67m (BM&FBOVESPA, 2015) (approximately US \$1,902m)	€6,018m (research data) (approximately US \$6,700m)
Number of employees	2,500 direct employees	2,600 direct employees	18,500 direct employees	38,000 direct employees

Table IV.
Description of the companies studied

for the auto manufacturer, which may vary from 12 to 18, depending on how much each one billed in the month. “B” represent the intermediate suppliers and “C” are those with low billing.

Suppliers’ development is another classification used. Its assessment is based on quality, logistic development, delivery punctuality, etc. by means of indicator SPI. Such classification presents four possibilities:

- (1) “red”, represents the most problematic suppliers;
- (2) “yellow”, those in an acceptable range;
- (3) “green 1”, good suppliers; and
- (4) “green 2”, which is the range of suppliers that do not present any problems, therefore, the best classification.

Table V presents the features of the relationships studied.

The analysis of results and conclusions are presented in the next sections.

General analysis of the cases

Table VI, in the sequence, presents the main results of the research. OBA is applied unilaterally, forced by the auto manufacturer, forming a selective process of information as suppliers try to protect their information against opportunist behavior exhibited by the auto manufacturer. The detail level of the information shared (related to the type and nature of the information and its aggregation or not) is one of the ways suppliers use to protect themselves. Beta Supplier is the one that presents higher detail level and Delta is the one that most restricts its information.

The detail level of the information shared related to the probability of having the adjustment required granted is a phenomenon found in the cases analyzed, and for which no reference in literature has been found. The higher the transparency on information shared

Characteristics of the relationships	Beta Supplier and Alfa Auto Manufacturer	Gama Supplier and Alfa Auto Manufacturer	Delta Supplier and Alfa Auto Manufacturer
Time of relationship	Around 5 years	Around 8 years	Around 15 years
Exclusivity on supply	Not exclusive (divides supply with other two suppliers)	Not exclusive (divides supply with other two suppliers)	Exclusive
ABC curve classification	Level A	Level A	Level A
SPI classification	<i>Yellow</i>	<i>Green 2</i>	<i>Yellow</i>
Product supplied	<i>Electric harness:</i> does not present high added value neither restricted technology, low specificity with several suppliers alternative and limited importance for the auto manufacturer. Initially, such supplier would not be difficult to replace	<i>Aluminum and steel wheel:</i> although, at first, there is no technological restriction, the product presents high added value, certain specificity, and it is critical for the auto manufacturer, despite there are other suppliers options	<i>Tires:</i> present high technology (therefore, technological restriction), high added value, certain specificity and it is critical for the auto manufacturer with few options of suppliers. Exclusive supplier for Alfa Auto Manufacturer
Economic dependence	Significant part of its gross revenue (around 20%) comes from the relationship with Alfa Auto Manufacturer. Also, the type of product supplied and the need of relationship with an auto manufacturer may evidence certain dependence of Beta Supplier related to Alfa Auto Manufacturer	Economic dependence has not been observed, as only 1% of the supplier's gross revenue comes from the relationship with the Auto Manufacturer, besides the supplier's size is bigger than the auto manufacturer, and its supply for all important auto manufacturers in Brazil and other countries	Economic dependence has not been observed, as only 1.5% of the supplier's gross revenue comes from the relationship with the auto manufacturer. The supplier is a big multinational company with clients worldwide and, still, by the importance of its support on a marketing event (Motorsport) of the auto manufacturer it is difficult to replace this supplier

Table V.
Characterization of the relationships studied

by the supplier, higher the probability of the auto manufacturer to grant an adjustment close to the required. Conversely, the lowest the detail level of information, the lower the probability of having granted an adjustment near the required.

Gama and Delta Suppliers share their information in a limited way. Maybe because it is a requirement from the automotive sector, even Alfa Auto Manufacturer having a little market share compared to bigger auto manufacturers, Gama and Delta may not see alternative for not sharing information. Second point, the medium or low detail level that they exhibit may be explained by different factors: risk of opportunism from the auto manufacturer, absence of economic dependency from the auto manufacturer (such suppliers' size are larger than the auto manufacturer), relationship with all big auto manufacturer in Brazil and worldwide, type of product provided, etc. Third point, as highlighted by Alfa respondent, it may be more difficult and onerous for the auto manufacturer to change the supplier and develop a new one, even considering the specific assets invested than accepting the detail levels below expectations.

	Case 1 (Beta Supplier and Alfa Auto Manufacturer)	Case 2 (Gamma Supplier and Alfa Auto Manufacturer)	Case 3 (Delta Supplier and Alfa Auto Manufacturer)
Subjects approached	Case 1 (Beta Supplier and Alfa Auto Manufacturer)	Case 2 (Gamma Supplier and Alfa Auto Manufacturer)	Case 3 (Delta Supplier and Alfa Auto Manufacturer)
OBA adoption and usage	Unilateral and partially applied Forced by the auto manufacturer High level of detail, related to the high probability of granting the adjustment required Used mainly for price adjustment Controversial conditions, based more on pressure for price reduction than joint strategies Occasional and eventual joint actions	Unilateral and partially applied Forced by the auto manufacturer Medium level of detail, related to not high neither low probability of granting the adjustment required Used mainly for price adjustment Controversial conditions, based more on pressure for price reduction than joint strategies Occasional and eventual joint actions	Unilateral and partially applied Forced by the auto manufacturer Low level of detail, related to the low probability of granting the adjustment required Used mainly for price adjustment Controversial conditions, based more on pressure for price reduction than joint strategies Occasional and eventual joint actions
IOCM application Trust in the relationship	Partial trust (calculative trust) Trust has not been a pre-requirement for OBA but may have favored increase of details OBA may foster or weak trust High social satisfaction for both parties High level of economic satisfaction of the auto manufacturer because of the high level of details of information High supplier's satisfaction with OBA (however the supplier would not share information spontaneously)	Partial trust (calculative trust) Trust has not been a pre-requirement for OBA but may have favored increase of details OBA may foster or weak trust High social satisfaction for both parties The economic satisfaction of the auto manufacturer is not high, because of the medium level of details of information Medium level of supplier's satisfaction with OBA (would not share information spontaneously)	Partial trust (calculative trust) Possibly, trust has not been a pre- requirement for OBA and it has not resulted in increase of details OBA may foster or weak trust High social satisfaction for both parties Medium level of economic satisfaction of the auto manufacturer because of the low level of details of information High level of supplier's satisfaction with OBA (however OBA is limited and the supplier would not share information spontaneously)
Satisfaction with the relationship	High social satisfaction for both parties High level of economic satisfaction of the auto manufacturer because of the high level of details of information High supplier's satisfaction with OBA (however the supplier would not share information spontaneously)	High social satisfaction for both parties The economic satisfaction of the auto manufacturer is not high, because of the medium level of details of information Medium level of supplier's satisfaction with OBA (would not share information spontaneously)	High social satisfaction for both parties Medium level of economic satisfaction of the auto manufacturer because of the low level of details of information High level of supplier's satisfaction with OBA (however OBA is limited and the supplier would not share information spontaneously)

(continued)

Table VI.
Main results of the
research

Table VI.

Subjects approached	Case 1 (Beta Supplier and Alfa Auto Manufacturer)	Case 2 (Gamma Supplier and Alfa Auto Manufacturer)	Case 3 (Delta Supplier and Alfa Auto Manufacturer)
Factors that interfere on OBA, trust and satisfaction (specific assets, opportunism and safeguards)	Both parties invest in specific assets Pressure from the auto manufacturer on margins and prices Contract safeguards, interrelated and reputational, being the last one used probably only by the auto manufacturer Main safeguard used: contract Supply contract (standard) protects more the auto manufacturer than the supplier	Only the auto manufacturer invests in specific assets Pressure from the auto manufacturer on margins and prices Contract safeguards, interrelated and reputational, being the last one used by both parties Main safeguard used: contract Supply contract (standard) protects more the auto manufacturer than the supplier	Main specific asset invested by both parties: each one trademark Pressure from the auto manufacturer on prices Contract safeguards, interrelated and reputational, being the last one used by the auto manufacturer and, possibly, by the supplier Main safeguard used: contract Supply contract with clause changed by the supplier

Kajüter and Kulmala (2005) state that impose OBA may only be applied in direct dyadic relationships in which there is economic dependence. Gama and Delta Suppliers do not economically depend on Alfa Auto Manufacturer; however, they share information, even if in a limited way. Such finding contradicts Kajüter and Kulmala (2005) and evidences that there are other factors that may interfere on the relationship and contributes for OBA application, albeit in a forced way.

The literature about OBA (Seal *et al.*, 1999; Kajüter and Kulmala, 2005; Aguiar *et al.*, 2008) recommends that, to ensure expectations related to OBA, technical and social requirements must be accomplished, including relationships must be characterized by interrelated exchanges (Macneil, 1978; Ganesan, 1994; Choi and Wu, 2009; Agndal and Nilsson, 2010; Villena *et al.*, 2011). However, in the cases researched, not all requirements have been found. Although the respondents have reinforced the existence of partnership, evidences appoint to controversial relationships, based on pressure to reduce prices and with occasional joint strategies. The cooperation is not fully spontaneous and trust is partial, both certainly motivated by some kind of benefit (Ganesan, 1994; Williamson, 1996; Balestrin and Verschoore, 2014). Still, suppliers try to protect the value of their information in different ways against the risk of opportunism from the auto manufacturer (through contract, interrelated and reputation safeguards and sharing information restrictively).

Although the relationships researched are long-term (Beta – 5 years; Gama – 8 years; and Delta – 15 years, approximately), the aspects highlighted on the previous paragraph show that OBA occurs in an environment that also presents features of the strategies of transactional purchases introduced by Agndal and Nilsson (2010). In such situation, information sharing is used mainly for suppliers selection and assessment, more related with their monitoring than with support on planning and coordination of the joint actions (Tomkins, 2001; Agndal and Nilsson, 2010). The finding of the present research shows that OBA is used mostly to negotiate with suppliers (in the case of selection and, mainly, price adjustment) and identification of opportunities of costs reduction to reduce prices from the suppliers, possibly generating more benefits to the auto manufacturer.

Albeit suppliers declared high satisfaction with OBA, contradictorily it has been observed that none of them share their information spontaneously. Furthermore, all of them try to limit information shared. This may evidence that suppliers see few advantages on OBA application. Also, it has been observed that the auto manufacturer satisfaction with information sharing is high and related with the detail level of the information shared. The more transparent the information, the higher the auto manufacturer satisfaction with OBA and with the economic-financial results (economic satisfaction) arising from the relationships, since its economic earnings may be increased by the identification of costs reduction opportunities. Although it seems obvious, no reference on literature about such finding has been found.

Both the auto manufacturer and the suppliers highlighted high social satisfaction with the relationship. Although both parties have informed the existence of partnership, collaboration, mutual trust and mutual benefits, evidence shows no partnership, little collaboration, partial trust and more benefits generation to the auto manufacturer than to the suppliers. However, it still seems that there is a certain understanding between the parties which make them notice a “good relationship,” even though they are long-term relationships. Suppliers also commented that, although the auto manufacturer pressures their prices, it allows negotiation and considers that the suppliers also need benefits. They also said that the relationship with Alfa Auto Manufacturer, which is a small size company, presents better quality than the relationship with big auto manufacturers or other big

clients. That is, comparing with the mentioned relationships, the relationships with Alfa Auto Manufacturer may be less controversial.

It has been verified that OBA may have both positive and negative effects over economic and social satisfaction of suppliers, depending on how information is used by the auto manufacturer. If, on one hand, the use is constructive, also benefiting the suppliers, then OBA generates a positive effect on economic and social satisfaction. On the other hand, if information is used inappropriately, with no benefits to suppliers, then OBA affects negatively their economic and social satisfaction, which is associated with risk of the auto manufacturer's opportunistic behavior, as TCE predicts.

Because of the use of shared information and the risk of auto manufacturer's opportunistic behavior, OBA may destroy trust (Kulmala, 2004) if information is inappropriately used, or it may create trust in case of constructive use. (Morgan and Hunt, 1994; Seal *et al.*, 1999; Tomkins, 2001; Dekker, 2003; Kajüter and Kulmala, 2005; Nyaga *et al.*, 2010).

Although the kind of trust found is partial (calculative trust), it has been observed that it represents positive influence over economic and social satisfaction with the relationship, both for the auto manufacturer and the suppliers. Trust is an important interrelated mechanism of governance (Macneil, 1978) with potential to repress opportunistic behaviors (Liu *et al.*, 2009; Claro *et al.*, 2005; Claro and Claro, 2008), reducing transaction costs (Dyer, 1997; Dyer and Chu, 2000, 2003; Claro *et al.*, 2005; Claro and Claro, 2008), mainly the negotiation and monitoring ones (Andrade *et al.*, 2011). As a consequence, trust increases suppliers' economic earnings (economic satisfaction) and improves the quality of the relationship (social satisfaction).

Although Dyer and Chu (2003) state that the bigger the asset's specificity, the bigger the probability of increasing information sharing by the need of coordinating idiosyncratic exchanges, such situation has not been observed in the cases analyzed. It has been observed that, in the presence of specific assets, the party with more power, in this case the auto manufacturer may require more details regarding the information shared by the supplier, which is contingent on the relationship with it, as in the case of Beta Supplier. In other words, the increase of the detail level is related to the supplier dependence and to the power practiced by the auto manufacturer (*power-dependence*) (Kumar *et al.*, 1995b; Voldnes *et al.*, 2012) and not to the need of coordinating narrower relationships.

For Alfa Auto Manufacturer, the "open" relationship because of OBA application makes it easier to invest on specific assets as the parties can discuss about such investment. Such finding has also not been found in the literature researched and may reveal a way of pressure used by the auto manufacturer so that the supplier shares or gives more details about its information. In general, it has been observed that the investment on specific assets positively influence on mutual trust (as demonstrates commitment and tendency for the relationship continuity) and, consequently, economic and social satisfaction. It has not been possible to conclude that the influence of OBA on economic and social satisfaction is related to the specific assets invested in such relationships.

Regarding the safeguards found in the relationships studied, the contract safeguards (supply and confidentiality contract) have been reported by both parties as the most important against opportunistic behavior. Such results are corroborated by Liu *et al.* (2009), who affirm that contract safeguards are more effective to mitigate opportunism. However, the standard supply contract protects more Alfa Auto Manufacturer than the suppliers. Interrelated safeguards found in the cases studied seem to be not so effective, as they do not occur in a broad and forceful way. Although safeguards are adopted in all cases and they have the power to reduce the risk of opportunism, increasing trust and economic and social

satisfaction, possibly unilateral OBA, exerts more negative than positive influence over both economic (such as the increase of monitoring costs and reduction of economic earnings) and social (such as reduction of trust and quality of the relationship) satisfaction of suppliers.

According to Williamson (1996), one of the purposes of the safeguards is to create mutual trust. However, it is possible that the reputational safeguards used by Alfa Auto Manufacturer and the standard supply contract (contract safeguard) tend to negatively affect trust and, as a consequence, economic and social satisfaction of suppliers. This may stem from the fact that the reputational safeguards adopted by the auto manufacturer are related to the imposed application of OBA, the pressure to increase the detail level of information subject to the penalty of not having granted the adjustments near to the required or not getting new businesses. The standard supply contract protects more the auto manufacturer than the suppliers.

Finally, the results found are aligned with TCE, which states that the information asymmetry affects negatively the transaction and is related to the opportunistic behavior of the parties, the uncertainties related to the transaction, the complexity of the contracts and the agents' limited rationality (Williamson, 1975, 1985; Zylbersztajn, 1995; Bánkut and Souza, 2014). Thus, the unilateral information sharing exposes the suppliers to the risk of the auto manufacturer's opportunistic behavior, creating uncertainties regarding the relationship. Such aspects are aggravated by the limited rationality, which makes it impossible for the parties to anticipate possible situations in contracts, which are complex. As a result, such issues damage OBA's performance.

The opportunism of buyers tends to reduce the positive or to increase the negative effect of OBA over economic and social satisfaction of the suppliers, while such behavior reduces the economic benefits resulting from the costs information sharing. Windolph and Moeller (2012) observe that suppliers may accept the risk of buyers' opportunistic behavior or to implement additional safeguards; both situations tend to reduce the economic earnings of the suppliers. The abusive use of information shared by the buyers negatively affects the relation between OBA and the economic and social satisfaction of the suppliers, especially when OBA is imposed by the buyers (Kajüter and Kulmala, 2005), and not in trust and partnership (Carr and Ng, 1995; Seal *et al.*, 1999).

Conclusions

Even if suppliers may have benefits, such as inefficiencies identification, OBA usage is not started aiming at costs management in the supply chain, but in a way that the auto manufacturer may claim for prices reduction. Such aspects negatively influence their perception in relation to the tool because of the risk of opportunistic behavior and by the absence of the win-win principle (mutual benefits), curtailing the suppliers' willingness to share information. Unilateral OBA is not a well-accepted tool by suppliers due to the purposes of using of the information shared in the researched relationships, which limit the scope of benefits creation. If suppliers identify opportunity for costs reduction, then they will not have incentive to share such information with the auto manufacturer. It has been concluded that OBA is not necessarily an IOCM tool as most of literature claims, for OBA is not aligned with it.

The longevity of the relationships is not necessarily a result of information sharing. Unilateral OBA tends to affect satisfaction most negative than positively, hence negatively affecting the relationship continuity. OBA may be applied by imposition in dyadic relationships, where there is no supplier's economic dependence on auto manufacturer, contradicting Kajüter and Kulmala (2005). This implies that there are other aspects of the

interrelated context that may influence OBA's application. The conclusion is that part of the literature does not find support in the reality of the cases studied.

Trust, which is recognized as an important aspect for sharing information has also not been identified. In the relationships analyzed, trust is partial, not a requirement for OBA application and not always favors the increase of detail level of the shared information, being not aligned with most part of the literature concerning OBA. The implication of that is that the lack of suppliers' trust and the risk of auto manufacturer's opportunistic behavior limit the application of such tool, restricting the benefits it could create.

It has been verified that, mainly for suppliers, few benefits are created with information sharing. OBA does lend itself to an easy use and it is not well accepted by suppliers. This entails the need for more empirical research about the subject to identify the reasons for such gap and to align actual data (company's reality) with theoretical literature. There is a gap between literature and the reality of the companies studied.

OBA by itself does not ensure an increase in trust level, as foreseen by TCE, which deals with calculative trust (Williamson, 1996) because of the opportunistic behavior that the parties may exhibit. However, trust is important to raise economic and social satisfaction, and, consequently, continuity of the relationships. Such construct has been analyzed based on the literature researched, but according to Tomkins (2001), there is a lack of a robust theory about the interaction between trust and information sharing.

Although literature highlights the advantages of OBA and recognizes that its application certainly creates benefits for all the parties involved, as affirmed by Kajüter and Kulmala (2005), the ensuing conclusions were drawn in the light of the cases studied:

- in practice such tool has little usefulness;
- is garbled from its main purpose — manage costs in the supply chain; and
- does not necessarily create benefits for all the companies involved in this process.

The number of interviews is a limitation of this work, as they were in-depth, however in four companies only. Therefore, results found do not allow generalization, but were enough for the intended analysis. Additionally, the research was conducted in a one-on-one perspective allowing to face and compare (cross-comparison) a number of information obtained through interviews conducted both at the auto manufacturer and suppliers.

As a suggestion for futures studies, this research could be conducted with two or more auto manufacturers, of different sizes, and some common direct suppliers with a view to verify if different results emerge. Another suggestion would be to include in the investigation a key direct supplier of the auto manufacturer that has not adopted OBA and verify the reasons involved for not sharing information, or still, include a supplier that has applied OBA during a period and stopped to apply it.

Another interesting aspect to study would be the inclusion of other background information of satisfaction in the analysis, such as power-dependence and engagement. Although these two constructs have been considered in the research, the emphasis was on information sharing and trust. It is also suggested to conduct this research through a survey with all auto manufacturers in Brazil and their direct suppliers with a view to generalize findings and for a more effective measurement of relationship satisfaction and trust. Finally, investigation could be conducted in other economic sectors, in which the companies apply OBA. The objective would be to compare with the present research, as the automotive sector has specific features that influence OBA.

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