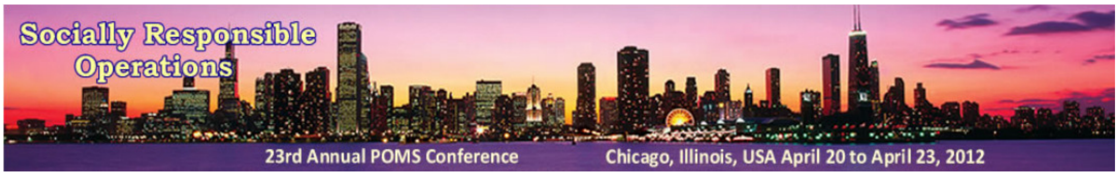

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Buyer-Suplier relationships: the human behavior influence in value creation and appropriation

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ABSTRACT

This study intends to analyze how the individual human behavior influences in generation and value appropriation and what are their impacts in supply chain management, considering the premise of bounded rationality. We propose a multi-theoretical (TCT, RV and SET) and multi-methods approach (case studies and human experiments).

Keywords: Buyer-supplier relationships, Behavioral Operations, Controlled Experiments, TCT, SET, Relational View.

INTRODUCTION

Buyer-supplier collaborative relationships studies have been widely explored in marketing, strategy as well as in production and operations management literature, wich theme and publications occupy growing space in main national and international journals. Terpend et al. (2008) analyzed 151 articles published in the four top american journals between 1986 and 2005, indicating that although emphasis has changed over time, most scholars have primarily investigated four types of value derived from buyer–supplier relationships: operational performance improvements, integration-based improvements, supplier capability-based improvements and financial performance outcomes.

From their review, Terpend et al. (2008) indicated that, rather than focusing only on benefits from collaborative relationships, researchers should focus on identifying practices and conditions in which firms create competitive advantage.

In this sense, it is worth mentioning an important link in the study of collaborative relationships: the human link. Talking about buyer-supplier relationships (BSRs), we are necessarily talking about people relationships, once it is people who make decisions ranging from choosing one or other partner to purchase or not purchase; to sale or not sale in the business. At various times it can be expected that subjective aspects of human behavior emerges and influence these decision-making.

The necessity and importance to introduce human issues in Operations Management (OM) research since process untill performance, trying to understand material flow and human motivation have been enfatisized by many authors, included in special issues of most importante journals of OM field (e.g. Powell & Johnson, 1980, p.48, in the inaugural issue of Journal of Operations Management-JOM; Hopp, 2004, in the 50th anniversary of Management Science-MS; Bendoly, 2006 – in the editorial of JOM special issue about incorporating behavioral theory in OM empirical models).

In recent years is growing interest about incorporate this "soft" aspects in OM, exemples of that are series of events as Behavioral Operations (Harvard Business School, 2006; Penn State, 2006; Minneapolis, 2007; Alberta, 2008; Syracuse, 2009; Charlottesville, 2010; Fontainebleau, 2011), and a creation of a special college of this theme in the biggest event of OM fiels (POMs conference) since 2006, beyond special call for papers in most important OM journals (JOM, 2006; M&SOM, 2008; JOM, 2011, POM, 2011).

Despite the people importance to operation and performance, most formal analytical models of operations assume that these people are fully rational or at least can be induced to behave rationally (Gino & Pisano, 2008).

In this context it is important to note the assumptions of bounded rationality exposed initially by Simon (1957) and subsequently applied in the organizational context by several authors (Williamson 1975, Williamson, 1985; Grover & Malhotra 2003, Su, 2008). Conceptually, bounded rationality refers to neurophysiological and language individuals limits (Simon, 1957), this represents, in the organizational context that, even if they want to act rationally, "they are limited in their ability to receive, store, retrieve, and communicate information without error. This limits the extent to which rational behavior can be conducted" (GROVER & MALHOTRA 2003, p.458).

Despite the widespread availability of theoretical and empirical research on the subject of BSRs, we found a lack of studies that analyze the human impact and behavioral biases that involve decision-making in these relations. Of the 151 studies on the subject analyzed by Terpend *et al.* (2008), there were no study mentioning the human behavior impact in this relationship.

Bowman & Ambrosini (2000) argue that the value of an organization is created by their members (people) and the capture of value added in a relationship comes from the perceptions of power between the links in the chain (buyers and sellers). In addition, Brandenburger & Stuart Jr. (1996) indicate that how much of the value added will appropriated by each player on the supply chain, depends on the bargaining power of each individual. According with this, there is the following research question: **given the premise of bounded rationality, how the individual human behavior influences the value generation and appropriation and what are their impacts on supply chain management?**

Thus, in order to answer the research question, this paper's main objective is to analyze the human behavior effect, considering the premise of bounded rationality, and these behaviors impacts in value generation and appropriation in the supply chain. The especif objectives are:

1. Define conceptual and operational aspects of human behavior for this approach to value creation and appropriation;

2. Identify wich behavior and individual characteristics may affect the value creation and appropriation;

3. Qualitative test the presence of hypothesized causal mechanisms and their resulting impacts on the value generation and appropriation;

4. Test the presence of these specific behaviors and their effect on specific dependent variables by conducting controlled laboratory experiments (isolated causal relations).

In line with the directions of Terpend et al. (2008) and Miller & Tsang, (2010), we will apply a multi-methods and multi-theoretical approach. This work is part of a research group on the issue and whose coordinator and supervisor has research productivity scholarship from CNPq in Brazil directly related to this paper´ subject (value creation from the collaborative relationships). But the purpose of this thesis is specific and is intended to complement other masters and doctoral works oriented and dealing with different perspectives on the theme (Hashiba 2008; and Miguel Brito 2006, Brito 2010).

THEORETICAL BACKGROUND

In this section it will be presented this work´s intended theoretical and empirical basis, and because it is a part of a PhD project, the conclusion of that is estimated in three years, and its theoretical constitution is under development.

This thesis proposal aims to study the collaborative relationships from the perspective of human behavior and is fundamentally at three complementary theoretical approaches to be explored: Transaction Cost Theory (TCT) with the operation of some specific constructs such as bounded rationality; Relational View Theory (RV) with the operationalization of “Trust” construct, the Social Exchange Theory (SET) with the operationalization of power and justice in collaborative relationships.

Colaborative Relationships

According to Carr and Pearson (1999), collaborative relationships between companies differ from transactional relationships because they involve high levels of relational links in the chain being involved.

Heide and Miner (1992) suggest that collaboration occurs from four cooperative behavior: information exchange, flexibility, joint problem solving and restricted use of power. Johnston et al. (2004) suggest three cooperative behavior: shared responsibility, shared planning and flexibility. Carr and Pearson (1999) grouped these various concepts into a single construct construct called "Buyer-supplier relationships - BSRs." Krause et AL (2007) include several another variables in combination with some cooperative behavior.

When compared to merely transactional relationships, collaborative relationships require more time and effort in consolidating and continuity, also have higher costs and risks involved (Monczca et al., 1998), yet it is these types of relationships that have the greatest potential for generate competitive advantage to those involved (Carr & Pearson 1999; Frohlich & Westbrook 2001, Johnston 2004; Terpend et al. 2008), so this study adopts this kind of behavior for the generation and value appropriation.

Value creation and appropriation

In line with Brito (2010) this paper proposes the use of the concepts of value creation in developed by Business Strategy´s field, that starts with the Porter´s idea of differentiation or cost (Porter, 1980, 1985), then assuming a more abstract view with Barney (1991) and so assuming his current conception of value creation more than a marginal contestant from Peteraf and Barney (2003).

The concept of value used by the classical economists can be approached from two different perspectives: the "use value" and "exchange value" (Bowman and Ambrosini, 2000). Use value is a subjective perspective and is associated with the perceived value by consumers, while the concept of "value as exchange" is associated with the amount of money exchanged at that particular time, and means to create value as the difference between the customers' willingness to pay and the economic cost incurred by the company.

According to Brandenburger and Stuart jr. (1996) there are two basic forms of differentiation. The first is to increase consumer willingness to pay, from investments in products and services, it involves the company find ways to meet the needs and desires of consumers more effectively than other firms, this is the classic strategy of differentiation (Porter, 1980). The second is to improve the opportunity cost of the company.

The definition of value developed by Brandenburger and Stuart Jr. (1996) is particularly useful for studies in supply chain, as it embodies the triad of supplier-customer-company. The value creation is defined by the authors as the difference between willingness to pay (WTP) of customers and the opportunity cost (OC) of the supplier. The WTP is the value perceived by the customer (must be greater than the price paid). The difference between the willingness to pay and the price of goods or service is what motivates the purchase and represents a value that is appropriated by the customer. The difference between price and cost is the portion of value that is directly appropriated by the company in question.

Symmetrically to the willingness to pay, the supplier has an opportunity cost (their second best option to sell) that is lower than cost. The difference between cost and opportunity cost is the value that is appropriated by the supplier. The total value created, more accurately expressed in Peteraf and Barney (2003), is the difference between willingness to pay and the opportunity cost of the supplier. This total value has three parts: the value appropriated by the customer (willingness to pay minus the price), the value appropriated by the company (price minus cost) and the value appropriated by the supplier (cost minus the opportunity cost).

Competitive advantage means to generate more value than competitors. This can be achieved by a greater willingness to pay (the Porter´s differentiation strategy), or a lower opportunity cost of the supplier and consequently a lower cost (Porter's cost leadership) or both (companies with dual benefit) (Ghemawat, Rivkin, 2006). Figure 1 illustrates the concept.

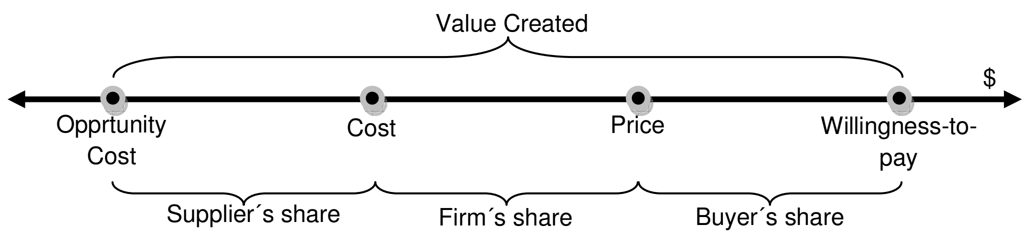


Figure 1: value creation in the chain
Source: adapted from Brandenburger and Stuart Jr. (1996)

It is noteworthy that even at the time of exchange and value translated into a specific monetary amount, there are buyers and suppliers (people) and that although most of the analytical models in operations management assume that the agents involved in these systems and processes (make decisions, solve problems, work, sell or buy) can act in a fully rational way or at least be induced to do so, in fact it does not happen this way, denoting then space for human subjectivity associated with decision-making (Gino & Pisano, 2008).

Pronovost & Boyer (2010) states that "(...) we also publish thousands of mathematically based articles that make limiting assumptions about “rational people”. I would like to meet some of these rational people, because I don’t think I know any” (BOYER & Pronovost, 2010, p.370).

Thus, we understand that investing and understanding human behavior and it´s influence, is a topic that is gaining increasing importance in OM field and, also a way to influence the added value to be generated in BSRs.

Human Behavior in Operations

The rethinking of science when a large mass of "anomalies" is emerging, has been discussed by various philosophers since T. Kuhn, who explains that is in these moments that researchers need to seek alternative theories attempting to explain what is not explained. The current movement towards the economics called behavioral economics accurately represent this, an attempt to generalize the neoclassical economic theories introducing psychological and behavioral aspects in an attempt to explain both results, new and existing (BENDOLY et al. 2006).

Croson (2006) points out that Kuhn challenges us to rethink the common paradigms in a particular field of research. "Kuhn sees science developing as a series of 'jumps and plateaus', with the jumps occurring at points of paradigm shift". Hopp (2004) in his review of the last 50 years of Management Science in the commemorative edition of the journal Management Science, says that behavioral factors tend to be the next source of our field's next paradigm shift.

In recent years we can see an effort of several authors in the OM field in order to stimulate research of human behavior in operations (Bendoly et al. 2006; Gino and Pisano 2008; Bendoly et al. 2010; Boudreau et al. 2003; Ahmad 2003; de Menezes, Wood, and Geladi 2010, Loch and Wu, 2007). This effort is an attempt to cover explanatory gaps between theory and practice in the field. Bendoly et al. (2006) believes that there may be many reasons for this distance, but quite possibly most of them are related to people and their actions.

> (...) A common factor in this breakdown is people. When it comes to implementation, the success of operations management tools and techniques, and the accuracy of its theories, relies heavily on our understanding of human behavior. Lack of trust between supply chain partners, incentive misalignment, and natural risk aversion are but

three behavioral issues that can negatively impact operational success. (BENDOLY et al., 2006, p.737).

The term Behavioral Operations (BO) is understood as an emerging approach in the study of OM that explicitly incorporates social and cognitive psychological theory. It first appears in the article of Gino and Pisano (2008) and was defined as "the study of human behavior and cognition and their impacts in operating systems and processes". The authors conclude that both the traditional area of OM as the area of BO share the same intellectual pursuits (design, management systems and improvement in product and process), "but their research focus is different". In the traditional literature of OM, human behavior has often been ignored or at best conditions, treated as a second-order effect (Ahmad, 2003, Boudreau et al. 2003; Jayaram, 1999; Hill & Scudder, 1998; Wood, 1999) .

Empirical research in OM have recognized many elements of human behavior and demonstrated potential gains from the combination of practical elements of Human Resource Management (HRM) and OM (KAYNAK, 2003; KAYNAK, 2008, Ahmad & Schroeder, 2003; Jayaram , DRUGS, & Vickery, 1999; Huselid, 1995; SILA, 2007; Menezes, Wood, & Geladi, 2010).

Despite the widespread availability of theoretical and empirical research on the subject of buyer-supplier relationship, we find a lack of studies that analyze the human impact and behavioral biases that involve decision-making in these relations. Of the 151 studies on the subject analyzed by Terpend ET AL. (2008), there was no any study on the impact of human behavior in this relationship. In addition, contemporary studies exploring human behavior impact in OM emerge as an important research focus (Croson, Schultz, & Siemsen, 2011).

Transaction Cost Theory

Transaction Cost Theory (TCT) is one of the dominants theoretical approaches to study the relationships in supply chains. This theory had its origins in the work of Coase (1937) and its main enhancements developed by Williamson (1975, 1985, 1993, 2008).

The theory has dimensions and assumptions with regard to human behavior (bounded rationality and opportunism) and size of transactions (asset specificity and human/environmental uncertainty).

This work uses the bounded rationality construct exposed by TCT, which assumes that people, despite the intention to make rational decisions, are limited in their cognitive ability to effectively evaluate all possible alternative decisions. This point is emphasized in uncertainty environments, where the human ability to make a rational decision is entirely prevented (HEIDE & Rindfleisch, 1997).

Grover & Malhotra (2003) believe that the bounded rationality and opportunism increases transaction costs, that as a consequence of this, are higher under conditions of high asset specificity and high uncertainty.

Rindfleisch & Heide (1997) highlight some important refinements to the TCT since the seminal work of Coase (1937) and Williamson (1975) often overlooked in the literature with regard to behavioral assumptions, in particular related to the bounded rationality concept. In earlier work, the authors used this term to refer to the ability to anticipate conditions of dependency occasioned by specific investments. Later, the term came to designate the ability to anticipate future changes in conditions. Another aspect related to the human behavior that had many "refinements" was opportunism. It was previously assumed that all social actors were inclined to act opportunistically. Then the idea that some actors act opportunistically and that earlier identifying these actors is difficult, became effective.

Relational view

The Relational View Theory (RV) arises from the 1990s as an evolution of the Resource-Based View (RBV). The RV has its basis in the works of Dyer and Singh (Dyer 1997, Dyer & Chu, 2003, Dyer & Hatch, 2006; Dyer & Singh, 1998).

The relational view assumes that the relationship between firms (dyad) is an important unit of analysis for understanding competitive advantage and identifies four potential resources of interorganizational advantage: i) asset specificity, ii) knowledge and routines eschange; iii) complementary resources and capabilities, and iv) effective governance.

To understand how the processes and routines of a dyad affected the relational rents and competitive advantage of firms, Dyer and Singh (1998) suggested comparing the theoretical perspective, aiming to analyze empirically the effect on the performance of specific assets, and identified differences in the specialization of buyer-supplier assets in the automobile sector that could explain the Japanese automakers superior performance comparing to North America firms. The results indicate a positive relationship between specialization and performance of the studied dyad; suggesting that integrated production networks characterized by proximity and the high level of expertise could affect human performance, but that relationships generate competitive advantage only when they significantly modify the results, differently from any common relation previously obtained (Dyer & Singh, 1998).

In relational assets between firms, the safeguarding of securities and the transactions volume are the keys that influence the ability of partnerships to generate income through this relationship. The authors also understand that knowledge and routines exchange is critical to the inter-organizational learning success and that firms always win knowledge in this collaboration.

Other studies (Levinson & Asahi, 1996, March & Simon, 1958, Powell et al, 1996) suggested that partnerships between firms, in many cases, are the most important source of new ideas and informations that result in improved technological innovation and strong performance. Therefore partnership can generate income, develop more knowledge exchange of their routines, but this exchange is not easily transferred.

Social Exchange Theory

Social Exchange Theory (SET) is considered one of the most important conceptual paradigms in the study of human behavior in organizations. Among their conceptual foundations are anthropology, social psychology, sociology and economics. It contemplates that the basic motivation for interaction is the quest reward and attempts to avoid punishment (Emerson et al, 1976, Cropanzano, 2005).

Early work on the subject dating from the mid-twentieth century, using the assumption that social behavior is an exchange of goods, material and non-material and, Homans (1958) takes one of the oldest theories about social behavior, social behavior as an exchange, which is influenced by the utilitarian philosophical and psychological behaviorism (Cook & Rice, 2006). Among the major academic works on the subject, we can cite Homans (1958, 1961), Emerson (1962, 1964, 1972), Emerson et al (1976), Blau (1964), Kelley and Thibaut (1959, 1978) and Cropanzano (2005). There is a consensus among the authors that SET is a set of explanations, propositions and hypotheses that incorporate general assumptions about social behavior, but not necessarily is a theory (Lamb et al, 2001).

Theoretically, although there are some differences among the principal SET´s authors, they converge on the essence of the theory: social exchanges comprise a set of actions in the expectation of reward, which over time may provide mutual transactions and relationships rewarding (CROPANZANO, 2005).

Among the literature in the Business Field that explores the SET´s concepts and their applications, the Marketing area was a precursor, most likely motivated by the conceptual domain of the area, that after 15 years of debate states that "... the primary marketing´s focus is the exchange ratio "(Hunt, 1983). Between the major works we can mention Morgan & Hunt (1994), Dwyer, Schurr, & Oh (1987), Lambe et al. (2001) and Hawkins, C. Wittmann & Beyerlein (2008).

Dwyer et al (1987) describes a model for buyer-supplier relashionsip development comparing what he called a discrete exchanges (or occasional) with relational exchanges, since both relations involve analogous costs and benefits. In order to illustrate a roadmap of exchange´s possibilities, the author uses the marriage metaphor between buyer and supplier, where you need to consider when casual sex can progress to more enduring associations supported by common goals, planning and commitment to the relationship.

One factor that may explain the increased use of SET in Business and Management Field (especially in marketing), is that the other approaches uses are limited, such as the inability of the Transaction Cost Theory (TCT) to explain relational governance mechanisms, led many researchers opted to use the social Exchange approach, especially because their wide applicability in the explanation of dealing mechanisms in the relationship between businesses (B2B) (Lamb et al., 2001).

Joshi & Arnold (1997) address the impact of buyer dependence and opportunism in BSRs, using relational norms as moderators, finding that dependence and opportunism are positively related in conditions of low relational and inversely related under conditions where high relational levels are predominant.

In the study by Hawkins et al. (2008), the opportunism is again resumed, because the authors believe that this behavior´s antecedents, in other words, what causes companies to behave opportunistically and what are this behavior´s consequence have not yet been fully synthesized and they aimed to improve BSRs. The authors make a comprehensive review of several texts on the subject of opportunism either in TCT and SET, that to be taken as common sense in the business and management fiels, it was rarely empirically tested or explored by academic researches. Thus the authors believe that opportunism: (1) has significant consequences for firms, (2) is not fully explained either by TCT or SET, and (3) are not fully understood, thus underscoring the importance of new research on the topic.

In the literature of Supply Chain Management (SCM), the first work-related to SET emerge in the 1990s, mainly focusing on the purchasing process and the buyer-supplier relationship. Among the major works, it can be cited (Griffith & Lusch, 2006; Moore & Cunningham, 1999; Ramsay, 1995, Narasimhan et al, 2009; Ireland, 2007; Stannack, 1996).

The work of Ramsay (1995) can be considered one of most important works, because their questioning of the old paradigms about purchasing process, wich results were not explained by Resource Dependence Theory (RDT) and the introduction of the idea that the purpose of the purchases was to "change the behavior of suppliers". That purpose gave rise to several other works in response, one of which a direct response as the Stannack (1996).

In this work were primarily addressed the concepts of power and dependency, and inspired in methods and indicators the author proposes a three-dimensional model of Power, wich the first dimension involves methods; the second and third dimensions are indicative, the second one is a kind of simple scale to "quantitatively measure" changes in behavior and, the third one is a way to qualitatively describe the behavior. The author believes that using this three-dimensional structure is satisfactorily possible to speculate about the nature of power and performance.

Again the trust and commitment constructs appear strongly, aligning the work of Moore and Cunningham (1999) to the work of Morgan and Hunt (1994) who used such constructs as key mediators of the relationship and its results. This paper examines the perceived social exchange behavior in logistics alliance and transactional relationships (non-alliance). The study also analyzed differences in alliances´ behavior considered more effective and less effective. Different forms of exchange take place in different forms of relationship. This study´s results indicated that both types of relationship influence the effectiveness of the social behavior of exchange, especially the influence of the level of effectiveness of the relationship. The partners involved in effective logistics relationships perceive higher degree of trust, fairness, commitment, and lower levels of conflict and opportunism.

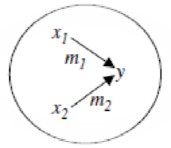
Concluding this brief review, it is important to highlight the work of Narasimhan et al. (2009) that uses the assumptions of SET to better understand the relationships called lock-in situations between buyers and suppliers. The authors take up the foundations of the SET, including the propositions of Homans (1961) and emphasizing the constructs of power (and dependence) and justice.

METHODOLOGY

Miller and Tsang (2010) highlighted several practical and philosophical challenges to the achievement of conclusive research in social sciences, ranging from researchers´ beliefs and practices of working in open and complex enviroment to the changing nature of organizations. To minimize these limitations on the survey´s results, the authors suggest an approach to verification or falsification of four steps based on critical realism.

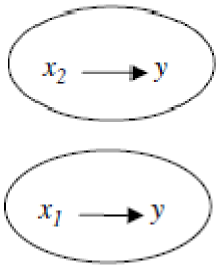
With a multi-method approach, this study intends to use as reference the work of Miller and Tsang (2010), and aims to be performed following the proposed four steps: (i) theory, (ii) verification of the presence of mechanisms empirically (iii) testing of causal relationships alone (controlled experiments) and (iv) testing of causal relationships together (in an open environment).

Step 1: Identify the hypothesized mechanisms



Step 2: Test for the presence of the mechanisms (m1 and m2) in the empirical setting

Step 3: Test isolated causal relations.



Step 4: Test the theoretical system.

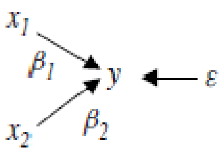


Figure 2: Steps in a critical realist approach to testing theories
Source: (Miller & Tsang, 2010)

Step 1 refers to the identification of causal mechanisms that are believed to have relations with the assumptions of the proposed study. This phase requires an interpretive work at the interface between theory and empirical interest´s context, aiming to resolve possible ambiguities between theory used, specifically contextualizing the possible explanatory perspectives of causal relationships (Miller and Tsang, 2010).

The second step in testing theories refers to empirically verify whether the proposed mechanisms are actually present (qualitatively) from the existence of causal mechanisms before moving directly to the hypotheses´ testing through relationships with the dependent variables.

In carrying out this phase, this study intends to run a multiple-case study (Eisenhardt, 1989). A priori, it is proposed the use of four polar cases, intentionally chosen to make a significant sample. It will still be used secondary data sources (document analysis) and primary (collected from semi-structured interviews with the focal firms and their customers and suppliers). The initial proposal, but that is still in definition phase is to use companies in the packaging sector, due to the fact that the research group wich this paper belongs to, is already conducting another researches in this area, providing better access to contacts and potential respondents, and allows comparisons with other data from additional research.

Once demonstrated the presence of empirical causal mechanisms theorized, we proceed to test its effects in a controlled environment (step 3). This stage is one of the main contributions of this work: the use of the experimental methodology in operations management, especially in SCM and BSRs.

The experiment´s importance is that they in fact complement more traditional approaches (case studies, cross-sectional surveys and mathematical models) trough controlled trials from the hypothesized causal relationships (Mantel et al, 2006).

Several theories invoke mechanisms that consist in linking causal relationships, where one event leads to another, according to Miller and Tsang (2010, p. 149) "experiments help to isolate and test these links. Moreover, the experiments enable researchers to assess the merits of competing theories. "

Behavioral experiments are a well established research methodology for the study of issues relating to human behavior in various disciplines such as economics, psychology, sociology, medical research and also in management disciplines including marketing, accounting and human resources (BENDOLY et al. 2006).

> "(...) we believe behavioral experiments, if properly designed and executed, can provide windows into a wide range of phenomena of

interest to operations managers.We viewexperimental research as a means for ensuringmore realisticOMtheories andmodels, with the assumptions of many establishedOMtheories serving as a vast and rich ground for experimentation" (BENDOLY et al. 2006, p.750).

According to Wacker and John (1998), the purposes of behavioral experiments refers to the investigation of causal relations through the manipulation and control treatment aiming to determine the exact effect on specific dependent variables.

Miller and Tsang (2010) strongly recommend to researchers in the Strategy and organizations fields to well explore the potential of laboratory experiments, behavioral simulations and quasi-experiments aiming to generate data that can rigorously test the causal relationships present in their theories.

Figure 3 shows the structure of this research project, with the generation of intermediate work (theoretical paper after the first phase and two articles with empirical data collected in qualitative and experimental phases), beyond the production of a PhD dissertation and final paper with the results of the research a whole.

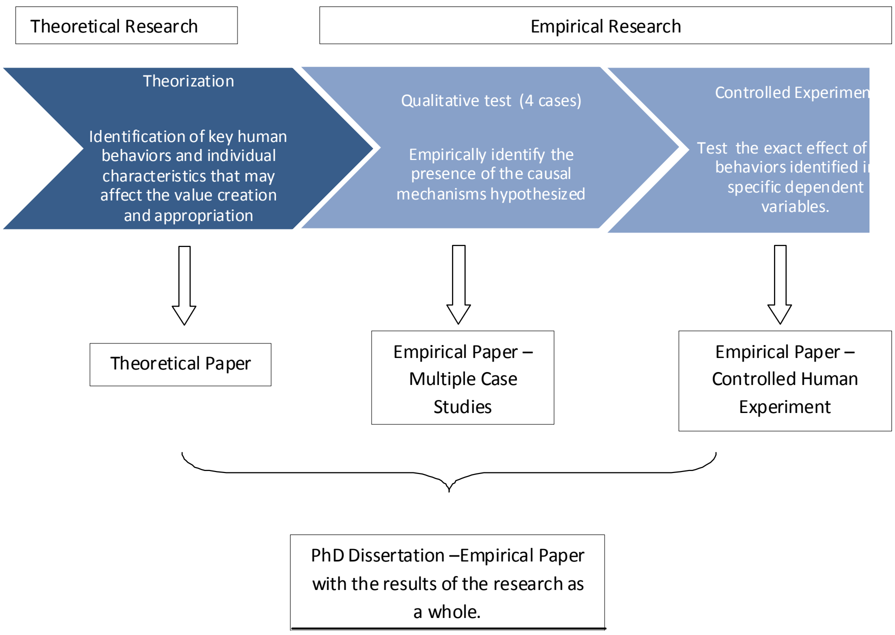


Figure 3: Research structure
Source: Authors

CONSIDERATIONS

We believe that this research, trogh introduction and deepening the study of human behavior in operations, especially its influence in the creation and value appropriation in the supply chain, will contribute to management practices and still to scientific field.

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