L'alignement stratégique des systèmes d'information interorganisationnels : le cas des entreprises manufacturières québécoises

The strategic alignment of interorganizational information systems: the case of Quebec manufacturing firms

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This study had two main objectives. First, to identify and operationalize the key variables required to assess the strategic alignment of Inter-Organizational Information Systems (IOISs) in the context of dyadic relationships between manufacturers and suppliers. Second, to use a subset of these variables to test two alignment perspectives: fit as moderation and fit as gestalt. More precisely, four key dimensions tied to the study of IOISs alignment in the context of interorganizational relationship (relationship structure, antecedents, outcomes and IOISs usage) and the twenty-five variables that characterize them were identified. Results, from the gestalt and moderation alignment perspective's test show that when aligned together, joint actions (relationship structure), idiosyncratic investments (antecedents), diversity (IOISs usage) and internal integration (IOISs usage) become adequate predictors of the manufacturers' operational performance (outcomes). Thus, demonstrating the primordial role of IOISs alignment in manufacturer–supplier relationship and supporting the contingency theory and its underlying concept of fit.

Mots clés: Contingency Theory; Interorganizational Information Systems (IOISs); Business relationships; Supply Chain; Models.

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Chapter 1: Introduction

1.1 Interorganizational relationships

A business relationship can be defined as: "... an economical exchange of property rights (i.e. transaction) that contains elements of the dyadic and the business environment (Claro *et al.* 2003; p. 704)" In the past several years, many organisations have modified the nature of their business relationship with their customers, suppliers and other external partners (Bensaou, 1997). For example, new interorganizational form, such as virtual enterprises and integrated supply chains have emerged in today's competitive market (Lefebvre and Lefebvre, 2002; Léger *et al.*, 2006). Contrary to the past, manufacturers and suppliers are now moving away from the traditional "arm's length relationship", to form partnerships based on cooperation (Bensaou, 1997). Webster (1992) and Weitz and Jap (1995) noted similar changes, where short term interorganizational relationships were replaced by long-term and stronger interorganizational relationships, such as strategic alliances and partnerships.

Several reasons explain organizations' desire to form long-term and stronger relationships with their partners. According to Webster (1992) and Weitz and Jap (1995), those kind of relationships are critical for firms to develop competitive advantages. Close interorganizational relationships also allow firms to minimize their production costs, time to market and delivery delays while maximizing the quality of their product and after-sales service (Rinehart *et al.*, 2004). Likewise, according to Sobredo and Roberts (2002), firms can no longer rely on their internal resources to

compete on the global market. Instead, firms should only invest in their core competencies and refrain from activities in which they are less competent. Based on these changes, many researchers have already noted that the success of a firm will depend less and less on its internal resources and more and more on the relationships it develops with its business partners (Tapscott *et al.* 2000). As such, in the future, competition will occur between networks of organisations rather than between individual organisations (Barba *et al.*, 1998; Schorr, 1998).

1.2 Interorganizational Information systems:

The term Inter-Organizational Information System (IOIS) was first proposed in the early 1980s, when Barrett and Konsynski (1982) used it to refer to an automated information system shared by two or more organizations. IOISs are computer networks that support information exchanges across organizational boundaries (Choudhury, 1997) and enable the electronic integration of business transactions and processes carried out by two or more organizations. Electronic data interchange (EDI) is probably the most commonly used technology allowing the exchange of information between business partners. However, in today's digital economy, more and more firms are turning to Web-based approaches to support their interorganizational activities.

Communication and information technology have now become essential means to support interorganizational relationships. Indeed, the rapid development of Internet-based IOISs has allowed the integration of business processes along the supply chain by facilitating the exchange of information between the members in order

to efficiently coordinate activities between partners (Sebastian and Lambert, 2003). Moreover, in some situations, the adoption of IOIS has fundamentally modified interorganizational processes (Murtaza *et al.*, 2004).

The positive outcomes related to the adoption and assimilation of IOISs are broad in scope. They allow firms to improve their core interorganizational business processes (McIvor *et al.*, 2000), to access new market segments or markets (McIvor *et al.*, 2000), to accelerate their ordering, delivery and payment processes as well as to minimize their operation and inventory costs (McIvor *et al.*, 2000). Moreover, several researchers believe that the sharing of information in electronic form can significantly improve the performance of business relationships and represents a key factor of success for supply chains (Noordewier, John and Nevin, 1990; Anderson and Weitz, 1992; Ellram, 1995; Raghunathan, 1999; Stock *et al.*, 2001).

1.3 Literature limits

Despite the fact that the literature in the fields of business relationships (Anderson and Narus, 1990; Buvik and John, 2000; Cannon and Perreault, 1999; Ganesan, 1994; Heide, 1994; Jap, 1999; Joshi and Stump, 1999 etc.) and IOISs (Mukhopadhyay and Kekre, 2002; Phan, 2003; Zhu and Kraemer, 2002 etc.) is abundant, few authors have adopted the contingency theory to demonstrate that there is no unique optimal way to manage interorganizational information systems and that they must be adapted to take into account the nature and context of the supported relationship. The contingency

theory stipulates that organizational effectiveness results from fitting characteristics of the organization to its situation or context.

1.4 Perspective of the study

Thus, the objective pursued in this study is twofold. First, to identify and operationnalize the key variables required to assess the strategic alignment of IOISs in the context of a dyadic relationship between a manufacturer and its supplier for the procurement of one particular component. Second, to use a subset of these variables to test two alignment perspectives: fit as moderation and fit as gestalt. These two perspectives are direct opposites in Venkatraman's (1989) classification framework (see figure 1) since the moderation perspective specifies the functional form of the relationships among few underlying variables and anchors the concept (and test) of fit to a particular criterion while the gestalt perspective makes use of many underlying variables where the functional form of the relationships between these variables is not pre-identified and where the concept of fit is not anchor to a specific criterion.

Aside from partially filling an important gap in the literature, this study should help managers to better understand how to strategically manage their IOISs to support business relationships established by their firm and therefore optimize the outcomes of those relationships.

The remainder of the document is organized as follows. Chapter 2 introduces the theoretical background tied to IOIS, the contingency theory, and interorganizational

relationships. Chapter 3 highlights the research objectives, identifies the key variables required to assess the strategic alignment of IOISs and details the two proposed research model and underlying hypotheses. Chapter 4 exposes the research methodology. Chapter 5 summarizes the results of the pilot tests conducted to validate the surveys' instruments and exposes the research findings tied to the two proposed research models. Finally, the last chapter concludes with a discussion on the research's contributions, limitations, and prospects for future research.

Chapter 2: Theoretical background

Research on the strategic alignment of IOIS requires knowledge found in three complementary research streams: IOIS, contingency theory, and business relationships.

2.1 IOIS

As mentioned in section 1.2, the term IOIS was first proposed in the early 1980s, when Barrett and Konsynski (1982) used it to refer to an automated information system shared by two or more organizations. IOISs are computer networks that support information exchanges across organizational boundaries (Choudhury, 1997) and enable the electronic integration of business transactions and processes carried out by two or more organizations. Electronic data interchange (EDI) is probably the most commonly used technology allowing the exchange of information between business partners. However, in today's digital economy, more and more firms are turning to Web-based approaches to support their interorganizational activities.

A handful of researchers have identified the antecedents and outcomes of adopting and assimilating IOISs (Ahmad and Schroeder, 2001; Bakos, 1991; Chwelos, Benbasat and Dexter, 2001; Elgarah *et al.*, 2005; Hart and Saunders, 1997; Hong, 2002; Iacovou *et al.*, 1995; Malone *et al.*, 1987; Premkumar and Ramamurthy, 1995; Riggins *et al.*, 1994; etc.). Many classification frameworks have also been proposed (Barret and Konsynski, 1982; Hong, 2002; Johnston and Vitale, 1988; Kumar and Van Dissel, 1996; Malone *et*

al., 1987; Samaddar, Nargundkar and Daley, 2005; Seidmann and Sundararajan, 1998).

Key to the development of this research stream, Massetti and Zmud (1996) proposed an approach to EDI measurement consisting in 4 facets of a firm's EDI initiatives: diversity, volume, depth and breadth. Diversity refers to the extent that different types of a firm's business documents are handled through EDI connection. Volume refers to the extent to which a firm's document exchanges are handled through EDI connections. Breath refers to the extent to which a firm has developed EDI connections with each of its trading partners. Finally, depth refers to the extent to which a firm's business processes are intertwined with those of its trading partners through EDI connections. These authors also stress the importance of measuring EDI through all four dimensions, since omitting certain dimensions might bias perceptions and expectations.

Massetti and Zmud (1996) measurement approach has been adapted/used by numerous researchers (Chong and Pervan, 2007; Devaraj *et al.*, 2007; Hart and Saunders, 1998; Hsu *et al.*, 2006; Iyer *et al.*, 2004; Kim *et al.*, 1998; Lefebvre *et al.*, 2005; Léger *et al.*, 2006; McGowan and Madey, 1998; Premkumar *et al.*, 1995; Ramamurthy *et al.*,1999; Saeed *et al.*, 2005; Sanchez and Perez, 2003; Jai-Yeol *et al.*, 2005; Truman, 2000; Tsikritsis *et al.*, 2004; Vijayasarathy and Robey, 1997; Fang *et al.*, 2003; Zhu and Kraemer, 2005). For example, Zhu *et al.* (2006) recently applied the Massetti and Zmud's framework using breadth, volume and depth dimensions in their

open standard IOIS adoption (i.e. Internet) research model to demonstrates the applicability of these IOIS dimensions to new advancements in technology (Shi, 2007).

2.2 Contingency theory

The concept of "Fit", which hypothesizes that there is no single way to manage a business, originates from the work of Burns and Stalker's (1961). Nadler and Tushman (1980) define Fit, or congruence, as "the degree to which the needs, demands, goals, objectives and/or structure of one component are consistent with the needs, demands, goals, objectives and/or structure of another component". The search for alignment between the firm and its environment as well as the efficient management of the organization's resources to support that Fit is the fundamental premise tied to the contingency theory (Drazin and Van de Ven, 1985; Venkatraman, 1989).

Before the works of Drazin and Van de Ven (1985) and Venkatraman (1989), very few researchers examined the validity of their methodology and statistical analyses to empirically test alignment. Drazin and Vande Ven (1985) were the first to study different methodological and statistical approaches to define and test alignment. Likewise, Venkatraman (1989) developed a classification framework composed of six alignment perspectives (mediation, moderation, matching, coalignement, profile deviation and gestalt). Each of the six perspectives can be classified according to their degree of specificity of the theoretical relationship(s) as well as the choice to anchor or not the concept of alignment to a specific criterion (Venkatraman, 1989). In some cases, a precise functional form of the relationship between the underlying variables can be

specified, while in other cases, certain variables are said to fit together, without describing a precise form.

Following the work of Burns and Stalker (1961), the concept of Fit has served for research development in several research areas such as organizational theory (Aldrich, 1979), strategic management (Miles and Snow, 1978) and information systems (IS) (Tushman, 1978; Egelhoff, 1982). Several contingency models have also been proposed and tested in different research domains (Venkatraman and Prescott, 1990; Miller, 1991) including, information systems (Vessey and Galletta, 1991; Leidner and Jarvenpaa, 1995; Pinsonneault and Rivard, 1998). Researchers in the field of IS have adopted different alignment perspectives to test their contingency models. For example, Hong and Kim (2002), Teo and King (1996) and Sabherwal and Chan (2001) have respectively used Fit as moderation, mediation and profile deviation to test the alignment concept in their research. Chan *et al.* (1997) and Bergeron *et al.* (2001) have respectively pursued comparative analyses between two (matching and moderation) and six of the alignment perspectives proposed by Venkatraman (1989) in order to illustrate their differences and to confirm the importance of the methodological choices in testing contingency models.

As noted by Bergeron *et al.* (1991), the vast majority of researches on the alignment of information systems have focused on bi-variable relations, namely the alignment between business strategy and information technology strategy (Reich and Benbasat, 1996; Teo and King, 1996), and the alignment of the business infrastructure and the

information technology infrastructure (Sambamurthy et Zmud, 1999). Furthermore, Bergeron *et al.* (1991) have also identified and categorized the most frequently used variables to test the alignment of information systems. Four categories or types of variables came out of this process, namely, variables dealing with strategy, environment, structure and technologies. Those findings also reflect similar work done by Weil and Olson (1989) 10 years before, whereas the strategy, size, structure, environment, technologies, task and individual characteristics of an organization were the most commonly used categories of variables.

However, while the literature on alignment of information systems at the organizational level is abundant, the use of the contingency theory in the field of IOIS is scarce. In fact, to the best of our knowledge, only three studies have proposed research models whose theoretical arguments stem from the fields of business relationships, interorganizational information systems (IOIS) and the contingency theory.

The first study was conducted by Bensaou and Venkatraman (1995) and sought, by using the gestalt alignment perspective, to uncover the dominant configurations of interorganizational relationships across the United States and Japan automotive industry. Their conceptual model was rooted in the information processing view and stipulated that in order to achieved high performance level, organizations needs to align their information processing needs (IPN) and their information processing capabilities (IPC). According to the authors, IPN arise from uncertainties present in

interorganizational relationships while IPC are derive from mechanisms put in place by business partners in order to coordinate their activities. Following a six steps analytical approach (see figure 2), the authors were able to uncover five different configurations and identify the IOIS supporting each one of them.

The second study, conducted by Forster and Regan (2001), by using the moderation alignment perspective, examined electronic integration in logistics supply chain. They authors demonstrated that electronic integration as a strategy to improve operational performance across firms is limited/moderated by the nature of the interorganizational task, environment dynamism and the balance of power between the members of the supply chain.

The last study conducted by Premkumar *et al.* (2005), examined the fit between information processing needs (IPN) and information processing capabilities (IPC) in a context of interorganizational supply chain to determine its effects on performance. In their model, IPN were assessed by the various characteristics of the product and its procurement environment while the IPC were derived from the information technology supporting various activities in the procurement life cycle. Their results demonstrated that the fit between IPNs and IPCs had a greater effect on performance than either dimension alone.

2.3 Political economy theory

The literature regarding interorganizational relationships is fragmented in two seemingly different disciplinary orientations: an economic approach and a behavioural approach (Stern and Reve, 1980). The former attempts to apply microeconomic theory and industrial organization analysis to the study of distribution systems and has been essentially "efficiency" oriented, focusing on costs, functional differentiation and channel design (Stern and Reve 1980). The latter borrows heavily from social psychology and organization theory and has been essentially "socially" oriented, focusing on power and conflict phenomena (Stern and Reve, 1980). However, it has been argued (Benson 1975; Dwyer and Welsh 1985; Robicheaux and Coleman 1994; Stern and Reve, 1980; Zald 1982) that both approaches should be used simultaneously in order to fully understand and explain interorganizational relationships.

The political economy theory explicitly recognises this fact by integrating economic and behavioural aspects of interorganizational relationships. Political economy theory views "a social system as comprising interacting sets of major economic and socio-political forces which affect collective behaviour and performance" (Robicheaux and Coleman, 1994; p. 53). According to Arndt (1983), there are three major facets (aspects) under which political economy analysts evaluate exchanges between parties: (1) polity-economy, (2) external-internal and (3) substructure-superstructure. Within the first aspect, polity refers to the power and control systems that legitimize, facilitate, monitor, and regulate transactions (ranging from a centralized authority to a decentralized authority) while economy refers to the transformations of input into outputs and the

processes by which goods and services are allocated within and between institutions (ranging from market to hierarchy) (Arndt, 1983; Robicheaux and Coleman, 1994). The second aspect, external-internal, relates to the external (environmental) vs. internal (organizational) polity and economy. It allows researchers to identify and measure the interaction between the internal and external aspects, in our case, the interorganizational relationship and its environment. Finally, the third aspect, substructure-superstructure, proposed by Benson (1975), makes a distinction between substructure and superstructure (Arntd, 1983). Superstructural variables, such as sentiments and behaviours, are viewed as determined by (and in some cases, restricted by) the underlying substructural pattern of dominance.

The political economy theory has been widely used in the literature in order to conceptualize the structure and processes of interorganizational relationships (Achrol, Reve and Stern, 1983; Dwyer and Welsh, 1985; Krapfel *et al.*, 1991; Mohr and Nevin, 1990; Robicheaux and Coleman, 1994; Stern and Reve, 1980). The works of Stern and Reve (1980) is considered as the first major marketing study building explicitly on the political economy paradigm.

Building on the preceding literature, Robicheaux and Coleman (1994) have developed a theoretically derived model identifying and characterising the structure of interorganizational relationship as well as their antecedents and outcomes (see figure 3). Extending from the works of Stern and Reve (1980) they describe the structure of an exchange relationship according to two axes: decision-making structure and

operational integration. The vertical axis represents the degree to which the decision-making structure is clannish or bureaucratic (i.e. the polity structure) while the horizontal axis represents the degree to which exchange relationship within a channel dyads are discrete or integrated (i.e. the economy structure) (see figure 4)

Four measures are proposed for each axes, centralization, formalization, participation and shared paradigm represent the decision-making structure (polity structure), while joint actions, information exchange, assistance and monitoring represent operational integration (economic structure). A list of key variables representing the antecedents and outcomes of a relationship structure is also proposed by the authors (see table 1). The antecedents or relationship determinants are categorized accordingly to their economical, political, internal or external nature, while the outcomes of business relationship are categorized as political or economical outcomes.

Chapter 3: Conceptual framework

After providing a description of the research objectives, this chapter identifies the key dimensions and variables in the strategic alignment of IOISs and exposes two research model and their related hypotheses.

3.1 Research objectives

As briefly exposed in section 1.4, this research has two complementary objectives. First, to identify and operationnalize the key variables required to assess the strategic alignment of IOIS in the context of a dyadic relationship between a manufacturer and its supplier for the procurement of one particular component. Second, to use a subset of these variables to test two alignment perspectives: the moderation and gestalt perspectives. According to the moderation perspective, the impact of an independent variable on a dependent variable is reliant on the level of a third variable (i.e. a moderator). In fact, the fit between the independent variable and the moderator is viewed has the primary determinant of the dependent variable (Venkatraman, 1989). Thus, in order to derive any theoretical or practical meaning from this perspective, it is essential to anchor the concept of fit to a specific criterion (the dependent variable) and to pre-identify the functional form of the relationships among the underlying variables. Moreover, the theoretical meaning of fit resulting from this perspective can be best understood when only two variables (one independent and one moderator) are involved (Venkatraman, 1989) making it inappropriate to use many variables at the same time.

On the other hand, the gestalt perspective tries to identify frequently recurring clusters or gestalts among a large set of theoretical attributes instead of looking at linear association among few variables (Miller, 1981). More precisely, gestalts or cluster are defined by their degree of internal coherence among a set of theoretical attributes (Venkatraman, 1989). Thus, it's not appropriate to pre-identify the functional form of the relationships among the variable nor it is to anchor the concept of fit to a specific criterion. Practical and theoretical meanings are derived from this perspective by interpreting the different cluster formed by the statistical analyses.

The choice to use these two specific perspectives was based on several factors. First, these two perspectives are, as mentioned earlier in section 1.4, direct opposites in Venkatraman's (1989) classification framework. This allows a better understanding of the IOISs alignment phenomenon by being able to analyse it from two completely different and opposite point of views. Second, the moderation and gestalt perspectives are the rare perspectives which have been previously used to study IOISs alignment, making them relevant and better documented than the remaining four perspectives. Third, the perspective's choice was also constrained by the limited sample size of this study. In fact, while the moderation and gestalt perspectives are adequate for the sample size of this research, some perspectives (i.e. profile deviation) require larger sample size to be relevant.

3.2 Identification of the key dimensions and variables in the strategic alignment of IOISs

Based on the fact that the alignment literature on IS at the interorganizational level is very scarce and that the alignment literature on IS at the intraorganizational level is vast, we draw from both the inter- and intra-organizational literature to identify the key dimensions and variables related to the strategic alignment of IOISs. Figure 5 summarizes the key dimensions and variables of the strategic alignment of IOISs

Four major contingency dimensions have been identified at the intraorganizational level, namely: the firm's environment, the firm's structure, the firm's strategy and the firm's use of technology (Bergeron *et al.*, 2004; Weil and Olson, 1989). Similar dimensions have also been used at the interorganizational level: the environment (Bensaou and Venkatraman, 1995; Forster and Regan, 2001; Premkumar *et al.*, 2005), the relationship structure (Bensaou and Venkatraman, 1995; Jaziri and Kalika, 2006) and the use of information technology (Bensaou and Venkatraman, 1995; Forster and Regan, 2001; Jaziri and Kalika, 2006; Premkumar *et al.*, 2005). Only the strategy dimension identified at the intraorganizational is absent at the inteorganizational level since interorganizational strategy is often translated in the relationship structure dimension (Benson, 1975) (see figure 5). The four key dimensions of the strategic alignment of IOIS thus include three contingency dimensions, namely the relationship structure, its antecedents (which includes the firm's environment) and IOIS usage, and one dependent dimension, the outcomes.

Having identified the core dimensions of the strategic alignment of IOISs, the following subsections describe the key variables characterizing each dimension. These variables are mainly drawned from the works of Robicheaux and Coleman (1994), Massetti and Zmud (1995) and the literature tied to contingency theory at the intra and interorganizational levels.

3.2.1 Relationship structure

Translating the firm's structure dimension from the intraorganisational level into its similar entity at interorganizational level (the relationship structure) is a complex process which requires researchers to identify the important aspects characterizing the structure of interorganizational relationship. In this research, it was achieved by relying on the political economy paradigm which clearly states the key aspects (polity-economy, external-internal and substructure-superstructure) portraying the structure of interorganizational relationship. As such, the selection of the variables composing the relationship structure dimension was based on the political economy paradigm literature and were proposed by Robicheaux and Coleman (1994), namely centralization, formalization, participation, shared paradigm, joint actions, assistance, monitoring and information exchange. This decision is justified by the fact that Robicheaux and Coleman's (1994) theoretical model of business relationship structure is based on an extensive literature review and has many advantages compare to other models found in the literature. First, their model clearly states the limit between the antecedents, the structure, and the outcomes of a relationship. Second, each variable included in their

model has been previously used in the literature. Third, the proposed variables have been shown to be significantly influenced by or to significantly influence the antecedents or outcomes of a relationship (Anderson and Narus,1990; Boyle *et al.*,1992; Bonner and Calantone, 2004; Cannon *et al.*, 2000; Cannon and Hombourg, 2001; Chen and Paulraj, 2004; Dwyer and Oh, 1987; Dwyer and Welsh, 1985; Gulati and Stych, 2007; Heide and John, 1990; Heide and Miner, 1992; Hombourg *et al.*, 2002; Jai-Yeol *et al.*, 2005; Jap, 1999; Joshi and Stump, 1999; Lee *et al.*, 2004; Lusch and Brown, 1996; McGowan and Madey, 1998; Mohr and Speakman,1994; Mohr, Fisher and Nevin, 1996; Nielson, 1997; Noordewier, John and Nevin, 1990; Provan and Skinner, 1989; Reve and Stern, 1979; Stump and Heide, 1996; Vijayasarathy and Robey, 1997). Furthermore, some authors have also showed the significance of these variables in the context of IT alignment at the interorganizational level (Bensaou and Venkatraman, 1995; Jaziri and Kalika, 2006).

As proposed by Robicheaux and Coleman (1994), the eight variables can be divided in two groups. Those tied to the decision-making axis include: (1) **centralization,** defined as the extent to which power to make and implement decision is under the manufacturer's control (Klein,1989); (2) **formalization,** defined as the extent to which the exchange of resources and information between the manufacturer and its supplier are administered through formal policies, procedures, and contracts (Vijayasarathy and Robey, 1997); (3) **participation,** defined as supplier's actual input to decisions, including items that gauge supplier's encouragement of ideas, suggestions and opinions (Dwyer and Oh, 1987), and (4) **shared paradigm,** defined as the degree of similarity of

the pattern of shared values and beliefs between the manufacturer and its supplier (Lee and Kim, 1999).

Those tied to the operational integration axis include: (1) **joint actions,** defined as the extent to which the manufacturer and its supplier are involved in each other's operations (Joshi and Stump, 1999); (2) **monitoring,** defined as the ex ante and ex post control or supervisory actions taken by the manufacturer over its supplier (Ivens, 2006); (3) **assistance,** defined as the position the supplier takes toward assisting the manufacturer (Noordewier, John and Nevin, 1990), and (4) **information exchange,** defined as the bilateral expectation that the manufacturer and its supplier will proactively provide information (Heide and Miner, 1992).

3.2.2 Antecedents of the relationship structure

Selecting the antecedent variables required an important literature review tied to the use and impact of Robicheaux and Coleman's (1994) proposed antecedent variables. This literature review allowed us to identify the most significant and valuable relational antecedent variables. More precisely, eight variables (component market, component complexity, component criticality, idiosyncratic investments, task analyzability, task variability, interdependence and conflict) were identified and integrated into this research framework.

The first three variables representing the antecedents dimension are related to the characteristics of the component at the center of the business relationship, namely: the **component market** defined as the changes in the demand for the component being procured and the inability to accurately predict these fluctuations (Premkumar *et al.*, 2005), the **component complexity** defined as the technical complexity of the component being procured (Bello and Gilliand, 1997) and the **component criticality** defined as the manufacturer's perception of the financial and strategic significance of the component being (Cannon and Perreault, 1999). Those three variables have been identified as important determinants of a business relationship structure and its outcomes by Robicheaux and Coleman (1994) and have also been used significantly in previous IT alignment research models at the interorganizational level by Bensaou and Venkatraman (1995), Premkumar *et al.* (2005) and Forster and Regan (2001). Furthermore, their significance in a business relationship context have also been demonstrated by many other researchers (Bello and Gilliand, 1997; Cannon and Hombourg, 2001; Cannon and Perreault, 1999; Heide and John, 1988; Heide and Miner, 1992; Iyer *et al.*, 2004; Jap, 1999; Joshi and Campbell, 2003)

The fourth variable included in the antecedent dimension is idiosyncratic investments. Dedicated investments to a particular relationship have been proven to significantly influence the structure and outcomes of business relationships (Cannon and Hombourg, 2001; Cannon and Perreault, 1999; Ganesan, 1994; Heide and John, 1990; Heide and John, 1994; Jap, 1999; Joshi and Campbell, 2003; Joshi and Stump, 1999;Son *et al.*, 2005). Moreover, Bensaou and Venkatraman (1995) and Premkumar *et al.* (2005) also

demonstrated that idiosyncratic investments are significant and important in the understanding of alignment of information technology at the interorganizational level. Finally Robicheaux and Coleman (1994) also identified specialized investment as a key determinant of a business partnership structure and its outcomes. For the purpose of this study **idiosyncratic investments** are defined as the manufacturer's investments in specialized physical assets, organizational procedures, and training that are idiosyncratic to a particular supplier relationship (Heide and John, 1992).

Task analyzability defined as the extent to which there is a known procedure that specifies the sequence of steps to be followed in performing tasks tied to the procurement of the component at the supplier (Foster and Regan, 2001) and **task variability** defined as the frequency of exceptional and novel events that require different methods for performing tasks tied to the procurement of the component with the supplier (Foster and Regan, 2001). Both variables relate to the tasks performed by the respondent to support the business relationship at the supplier. Even though those two variables were not identified as key determinants by Robicheaux and Coleman (1994), they have been shown to be significantly related to the alignment of interorganizational information systems (Bensaou and Venkatraman, 1995; Forster and Regan, 2001).

The seventh variable included in the antecedent dimension is interdependence. This variable has been identified has a key factor in explaining the context/determinant of a business relationship structure and its outcomes by Robicheaux and Coleman (1994).

Furthermore, interdependence has been shown to significantly influence the structure and outcomes of a business relationship by many researchers (Anderson and Narus, 1990; Ganesan, 1994; Hallén *et al*, 2001; Handfield and Betchel, 2002; Hart and Saunders, 1998; Heide, 1994; Yilmaz *et al*, 2005) and has also been used in previous IT alignment research models at the interorganizational level (Forster and Regan, 2001). In this research, **Interdependence** is defined as to the ease with which the manufacturer or the supplier could replace is counterpart (Heide, 1994).

Finally, **Conflict** defined as the manufacturer's perception of the overall level of disagreement between the manufacturer and the supplier (Anderson and Narus, 1990; Mohr *et al.*, 1996) is the last variable included in the antecedent dimension. Conflict has been shown to significantly influence the structure and outcomes of a business partnership (Anderson and Narus, 1990; Lee and Kim, 2005; Maloni and Benton, 2000; Mohr *et al.* (1996); Vijayasarathy and Robey 1997) and is also identified as a key determinant of a business partnership structure and its outcomes by Robicheaux and Coleman (1994). Conflict has also been used by Bensaou and Venkatraman (1995) and Forster and Regan (2001) in their respective IT alignment models.

3.2.3 IOIS usage

The choice of variables for measuring of IOIS usage in this research is based upon the Massetti and Zmud's (1996) framework. Their proposed approach to IOIS measurement has been successfully used and adapted by numerous authors (Chong and Pervan,

2007; Chong and Pervan, 2007; Devaraj *et al.*, 2007; Hart and Saunders, 1998; Hsu *et al.*, 2006; Iyer *et al.*, 2004; Jai-Yeol *et al.*, 2005; Kim *et al.*, 1998; Lefebvre *et al.*, 2005; Léger *et al.*, 2006; McGowan and Madey, 1998; Premkumar *et al.*, 1994; Ramamurthy *et al.*,1999; Saeed *et al.*, 2005; Sanchez and Perez, 2003; Truman, 2000; Tsikritsis *et al.*, 2004; Vijayasarathy and Robey, 1997; Fang *et al.*, 2003; Zhu and Kraemer, 2005; Zhu *et al.*, 2007). Furthermore, some researchers have also established the pertinence of using Massetti and Zmud's (1996) approach to IOIS measurement in the context of IT alignment at the interorganizational level (Bensaou and Venkatraman, 1995; Forster and Reegan, 2001; Grieger, 2004; Jaziri and Kalika, 2006; Premkumar *et al.*, 2005;).

Therefore, the variables composing the IOIS usage dimension in this study are: (1) ***Capabilities of IOISs*** defined as the number of eBusiness functionalities implemented by the firm to support its activities with suppliers/customers (Zhu and Kraemer, 2002), (2) ***Volume of use of IOISs*** defined as the extent to which a firm's activities with its suppliers/customers are supported by its IOISs, (3) ***Internal integration of IOISs*** defined as the extent to which the IOISs used with suppliers/customers are integrated into the firm's internal systems.

3.2.4 Outcomes:

The choice of the outcome variables had to be based on two very important criteria. First, the variables needed to adequately measure the performance of a relationship between a manufacturer and a supplier. Second, the outcome variables also needed to

be previously recognised as being significantly related/influenced to/by IOISs, the relationship structure and/or its antecedents. Consequently, four variables representing the two categories of outcomes (economic and politic) were chosen to evaluate the performance of the dyadic relationship. **Manufacturer's operational performance** and the **quality of information exchanged** by the partners, characterize the economic outcomes while the manufacturer's level of **trust** and **satisfaction** towards is supplier compose the politic outcomes.

As stated by Robicheaux and Coleman (1994), the economic aspect of relational performance should be assessed by its efficiency and its effectiveness. Therefore, the first variable to be included in the outcome dimension is one assessing the manufacturer's operational performance. Many researchers have demonstrated that the operational aspect of performance is appropriate and important in evaluating the success of a business relationship (Premkumar *et al.*, 2005; Reve and Stern, 1979; Simatupang and Sridharan, 2004; Stock *et al.*, 2000; Zailani and Rajagopal, 2005). Furthermore, operational performance has also been used in the few IOIS alignment research models proposed to this date (Bensaou and Venkatraman 1995; Forster and Regan, 2001 and Premkumar *et al.*, 2005). Several studies have also shown that IT significantly influences those performance indicators (DaSilvera and Gagliano, 2006; Devaraj *et al.*, 2007; Saeed *et al.* 2005). Within the context of this research, the **manufacturer's operational performance** will be assessed along the following four dimensions: cost, quality, delivery and flexibility (Devaraj *et al.*, 2007; Miller and Roth, 1994; Vickery *et al.*, 1993).

To complement the measurement of the economic outcomes, a second variable measuring the quality level of the information exchange between the partners is required. In fact, exchanging quality information is essential for business partners to communicate and feel each other's needs and is a key factor of success for dynamic supply chains (Gossain *et al.*, 2005) and outsourcing partnerships (Lee and Kim, 1999). Bensaou and Venkatraman (1995) also demonstrated the usefulness of information quality as a key performance indicator in their IT alignment model. Within the context of this research, the **quality of the information exchanged** by the manufacturer and its supplier is assess along seven indicators addressing the quality, amount and accuracy of the information exchange via the IOIS (Bensaou and Venkatraman, 1995)

Even though trust has been acknowledged as a very important variable (Anderson and Narus, 1990; Dwyer and Oh, 1987; Fynes *et al.*, 2005; Ganesan, 1994; Handfield and Bechtel, 2002; Hart and Saunders, 1998; Ivens, 2006; Jap, 1999; Joshi and Stump, 1999; Lee and Kim, 2005; Nielson, 1996; Wilson and Vlosky, 1998; Yilmaz *et al.*, 2005) and used in IT alignment models at the interorganizational (Bensaou and Venkatraman, 1995; Foster and Regan, 2001; Premkumar *et al.*, 2005), there is always a certain ambiguity towards the role of trust in business relationships. Similar to the chicken and egg dilemma, some say that trust should be used as an outcome variable while other have also used it as an antecedent or a structure variable. Since this research adopts the perspective of the political economy theory, trust will be considered as an outcome in order to reflect the sub-structural and super-structural dimension characterizing this paradigm Within the context of this research the **manufacturer's trust** towards the

supplier is defined as the manufacturer's belief that the supplier's word or promise is reliable and that the supplier will fulfill his obligations (Nielson, 1996)

Satisfaction has been used as a performance measure at the interorganizational level by many researchers (Anderson and Narus,1990; Cannon and Perreault, 1999; Dwyer and Oh,1987; Ganesan,1994; Hombourg *et al.*, 2002; Ivens, 2006; Jap and Ganesan, 2000; Mohr *et al.*, 1996; Vijayasarathy and Robey, 1997; Yilmaz *et al.*, 2005) and has been recognized as an important variable in measuring business partnership performance. Furthermore, satisfaction has also been used in Bensaou and Venkatraman's (1995) model. Within the context of this research, the **manufacturer's satisfaction** is defined as the manufacturer's positive affective state resulting from the appraisal of all aspects of its working relationship with the supplier (Hombourg *et al.*, 2002).

3.3 Two conceptual models tied to the strategic alignment of IOISs

This section proposes two research models. The first relates to the perspective of fit as moderation and the second to the perspective of fit as gestalt. For consistency and simplicity purposes, each of the two conceptual model make use of the same 6 research variables: joint actions, idiosyncratic investment, capabilities of IOISs, volume of use of IOISs, internal integration of IOISs and operational performance representing each of the four dimension of the strategic alignment of IOISs. This choice of variables was based on literature evidence indicating that they were the most likely to fulfill the model pre-requisites.

3.3.1 Conceptual model 1: Moderation perspective

Six research hypotheses concern the relationships between the six variables of this research model (see figure 6).

Numerous researchers have demonstrated that joint actions between business partners can improve the performance of interorganizational relationships (Cannon *et al.*, 2000; Hadaya and Cassivi, 2007; Jap, 1999; Lee and Kim, 2005; Nidumolu, 1995; Nielson, 1997; Reve and Stern, 1979). As demonstrated by Vijayasarathy and Robey (1997) channel cooperation between trading partners is positively related to channel performance. In a dyadic context, Nidumolu (1995) demonstrated that the level of satisfaction of agencies toward their leading insurer tends to increase when performing joint activities. Sanders (2005) demonstrated that joint actions between a buyer and a seller are positively linked to operational (improvement of processes and cost efficiencies) and strategic (innovations, new business opportunities) measures of seller performance. Moreover, Cannon *et al.* (2000), in their study of buyer-seller relationships, confirmed the importance of joint actions to improve relationship performance under both low and high levels of environmental uncertainty. Similar results were also found for dyadic relationships involving a manufacturer and its supplier. In fact, Jap (1999) highlighted the importance of joint actions in manufacturer-supplier relationships to allow manufacturer to reach greater profitability and sustainable competitive advantages. Therefore, we formulate the following hypothesis:

Hypothesis H1:

Joint actions between a manufacturer and its supplier will positively influence the manufacturer's operational performance.

A manufacturer which establishes close and extensive working relationships with one of its partner will be more willing to share key strategic and operating information with the latter (Nielson, 1997). As stated by Shapiro (1988; p. 14) "Companies cannot do joint development without sharing intimate technological, design and operating information". Moreover, cooperation and collaboration between a manufacturer and its supplier not only encourage the sharing of information (Bensaou and Venkatraman, 1995; Dyer and Singh, 1998) but also entice the use of IOIS to reap the related benefits (Claycomb *et al.*, 2005; Jun and Cai, 2003). Since joint actions between manufacturers and suppliers are information-intensive activities requiring substantial interfirm coordination, learning and adaptation, IOISs should be valuable in increasing the trading partners' capabilities for handling such activities (Wang *et al.*, 2006). Indeed, a large body of literature acknowledges that using IOIS enables firm to reduce costs of communicating and processing information (Saeed *et al.*, 2005). Consequently, it is assumed that manufacturers which pursue joint actions with their suppliers in a context of high IOIS usage will achieved better performance than firms relying on low level of IOIS usage. As a result, we formulate the following hypotheses:

Hypothesis H2a

The direct and positive impact of joint actions between a manufacturer and its supplier on the manufacturer's operational performance will be higher when c*apabilities of the IOISs are greater* than when *Capabilities of the IOISs are more limited.*

Hypothesis H2b

The direct and positive impact of joint actions between a manufacturer and its supplier on the manufacturer's operational performance will be higher when the *Volume of use of IOISs is large than when the volume of IOISs is small.*

Hypothesis H2c

The direct and positive impact of joint actions between a manufacturer and its supplier on the manufacturer's operational performance will be higher when *the Internal integration of the IOISs is higher than when the Internal integration of the IOISs is lower.*

Idiosyncratic investments are often deployed between business partners for their productive nature (Stump and Heide, 1996). Dyer and Singh (1998) adhere to this line of reasoning by explaining how collaborating firms can generate relational rents through relation-specific investment which are essential to differentiate firms and create competitive advantages. Moreover, Jap (1999) demonstrated that dedicated investments made by manufacturer and its supplier to support their relationship are positively related to profit performance and realized competitive advantages. Similar findings were also found by Jap and Anderson (2003) four years later. More precisely,

these authors found that idiosyncratic investments made by a manufacturer and its supplier were positively related to the achievement of competitive advantages, joint profit performance and the evaluation of the counterpart's performance. Therefore the following hypothesis is formulated:

Hypothesis H3:

Idiosyncratic investments between a manufacturer and its supplier will positively influence the manufacturer's operational performance.

It is often necessary for manufacturers and suppliers to develop long term relationships with their counterparts to reap the full benefits of their idiosyncratic investments. As demonstrated by Cannon and Hombourg (2001), reaping the outcomes of such investment regularly occurs on a long term basis. Therefore, investments made by a manufacturer or a supplier to support their relationship tend to express their commitment to its partner (Anderson and Weitz, 1992) and can be seen as a form of calculative commitment (Anderson and Weitz, 1992; Cannon and Perreault, 1999). Indeed, by investing in such assets, a manufacturer and its supplier create (intentionally or not) obstacles to abandoning one another which in turns gives them strong incentives to make the relationship as profitable as possible (Anderson and Weitz, 1992). Therefore, pressure builds on the partners to generate a successful partnership. Since the sharing of information is essential in the process of building and maintaining a close partnership (Lee and Kim, 1999; Nielson, 1997), and considering the impact of IOISs and more precisely the positive impact of sharing information in an electronic form on

business relationship performance (Noordewier, *et al.* 1990; Anderson and Weitz, 1992; Ellram, 1995; Raghunathan, 1999; Stock *et al.*, 2001), it is assumed that manufacturers which invest in idiosyncratic investments with their suppliers in a context of high IOIS usage will achieve better performance than firms relying on low level of IOIS usage. As a result, the following hypotheses are formulated:

Hypothesis H4a

The direct and positive impact of idiosyncratic investments between a manufacturer and its supplier on the manufacturer's operational performance will be higher when c*apabilities of the IOISs are greater* than when *Capabilities of the IOISs are more limited.*

Hypothesis H4b

The direct and positive impact of idiosyncratic investments between a manufacturer and its supplier on the manufacturer's operational performance will be higher when the *Volume of use of IOISs is large than when the volume of IOISs is small.*

Hypothesis H4c

The direct and positive impact of idiosyncratic investments between a manufacturer and its supplier on the manufacturer's operational performance will be higher when *the Internal integration of the IOISs is higher than when the Internal integration of the IOISs is lower.*

3.3.2 Conceptual model 2: Gestalt perspective

The objective tied to the second research model is to uncover the dominant configurations of manufacturer-supplier relationships in Quebec's manufacturing sector. The model (see figure 7) is based on the information processing view (Gailbraith, 1973; Tushman and Nadler, 1978; March and Simon, 1958 and Weick, 1979) and its extension to the interorganizational level of analysis proposed by Bensaou and Venkatraman, (1995). Two important concepts are tied to the information processing view: (1) Information processing needs which, in this research, represent the communication requirements of the dyadic relationship between the manufacturer and its supplier, and (2) Information processing capabilities which are derived from mechanisms supporting interorganizational coordinatinon. The model also stipulates that, in order to achieved operational performance, organizations should matched their information processing capabilities (IOISs) to their information processing needs arising from the context and nature of interorganizational relationships in which they are involved (Premkumar *et al.*, 2005).

3.3.2.1 Information processing needs:

Two variables representing the nature and context of interorganizational relationships will characterize the information processing needs dimension and assess the communication requirements of the dyadic relationships: joint actions and idiosyncratic investments.

As previously stated in section 3.3.1, joint actions are information intensive-activities (Wang *et al.*, 2006) which entice the sharing of information between business partners (Bensaou and Venkatraman, 1995; Dyer and Singh, 1998). As such, joint actions increase communication requirements (Nielson, 1997; Shapiro, 1988) of dyadic relationships between manufacturers and suppliers. Thus, manufacturers will increase their information processing needs by pursing higher joint actions with their supplier.

Investments by a manufacturer to support a specific supplier relationship provide a strong signal to its counterpart about its desire for a long term relationship (Anderson and Weitz, 1992; Ganesan, 1994; Prekumar *et al.* 2005). Such type of interorganizational relationship requires significant level of communication and information exchange to be successful (Premkumar and Ramamurthy, 1995). As such idiosyncratic investements increase communication requirements of dyadic relationships between manufacturer and suppliers. Thus, manufacturers making greater idiosyncratic investment to support a particular supplier relationship will increase their information processing needs.

3.3.2.2 Information processing capabilities:

In this study, information processing capabilities are derived from the usage of IOISs (Bensaou and Venkatraman, 1995; Premkumar *et al.*, 2005). IOISs are important interorganizational coordination mechanisms (Bensaou and Venkatraman, 1995) which allow manufacturers to reduce costs tied to communicating and processing information

(Saeed *et al.*, 2005). Thus, manufacturers will increase their information processing capabilities with greater IOISs usage.

Chapter 4: Research methodology

The following chapter details the research methodology adopted to validate the survey instrument and test the two proposed research models.

4.1 Target Population

The target population comprised firms active in the four following sectors: (1) machinery manufacturing (NAICS 333), (2) computer and electronic product manufacturing (NAICS 334), (3) electrical equipment, appliance and component manufacturing (NAICS 335) and (4) transportation equipment manufacturing (NAICS 336). Two reasons justified this choice of population: (1) recent studies have showed that the adoption level of e-commerce in these four sectors is among the highest (Forrester Research, 2001) and (2) previous research have also demonstrated the validity of these sectors in the study of interorganizational relationships (Heide and John, 1990; Joshi and Stump, 1999).

4.2 Unit of analysis and sample framework

The unit of analysis of this study is the business relationship between a manufacturer and its supplier for the procurement of a particular component. Conceptually, a researcher can decide to study a business relationship through the perspective of the customer, the supplier or both parties (Anderson and Narus, 1984). In the present research, we have chosen to adopt the perspective of the manufacturer (i.e., the prime contractor) Since purchasing managers are directly involved in the initiation and management of supplier relationships (Joshi and Campbell, 2003) and are thus appropriate key informant (Heide and John, 1990; Joshi and Campbell, 2003; Stump

and Heide, 1996), we have chosen to adopt the perspective of the manufacturer (i.e., the prime contractor).

4.3 Sampling Method

A discretionary non-probabilistic sampling method was used in this research. Respondents were chosen according to their willingness to participate in the study and the manufacturing sector in which their firm evolves.

4.4 Material used

A questionnaire was used to collect data during face-to-face structured interviews. The questionnaire comprised five sections: (1) general information about the firm, the supplier and the component, (2) the structure of the business relationship between the firm and the supplier, (3) the usage of IOIS to support the relationship and (4) outcomes of the relationship.

A consent form was also presented at the beginning of the questionnaire in order to introduce the research objectives and detail how the information provided will be used.

4.5 Ethics' committee approval process

As required for all research projects, this study had to be pre-approved by the ethic committee of the Université de Sherbrooke. The process was relatively straight forward and was completed in only a few weeks. First, the questionnaire and the consent form were sent to the ethic committee with a document briefly explaining the relevant aspects

of the research project. After reviewing the project, the committee approved the project pending the correction of minor issues that had to be addressed. After a few days, the corrections were made and the documents were sent back to the committee for final approval. The final verdict was received soon after giving us the authorization to begin the data collection procedure.

4.6 Data collection procedure

Senior managers responsible for supplier relationships of a random study sample of 2,000 Quebec manufacturers in the four targeted sectors were contacted by phone in order to present them the research project and invite them to participate. This sample was obtained from the "Centre de Recherche Industrielle du Québec", a government body which maintains a list of all the manufacturing firms in Québec. Senior managers that were interested to participate in the study provided us with the name of the buyers under their supervision responsible of business relationships with suppliers of the company. As proposed by Ganesan (1994), in order to ensure that senior managers would not deliberately chose buyers in charge of well established and important relationships, we requested that they choose subordinates on the basis of two criteria: (1) the quality of the relationship (is the subordinate responsible for a well established or a relatively new relationship) and (2) the importance of the component for the firm (does the firm purchase an important or moderately important volume of the component). This procedure allowed us to collect data on four different types of relationships, evading the bias of limiting the sample to only well established and important relationships. Finally, on the base of previously acquired information, face-to-face structured interviews were

planned with the pre-identified respondent. During the interview, the respondents were asked to complete the survey and to base their answers on the pre-designated relationship identified by their higher manager.

4.7. Measures

Measures in this research (3 indexes and 20 constructs) were adapted from the literature (see table 2 for the research variables' operationalization). The three indexes were used in the assessment of the IOIS usage dimension. The first index which assesses the capabilities of the IOISs, includes 32 items and is adapted from the works of Lefebvre *et al.* (2005), Hart and Saunders (1998), Massetti and Zmud (1996) and Vijayasarathy and Robey (1997). The second index addresses the volume of use of the IOISs by using 32 items and is adapted from the work of Mcgowan and Madey (1998). The last and third index assesses the internal integration of IOISs into the manufacturer's key internal systems. This third index includes 6 items and is adapted from the work of Hart and Saunders (1998) Ramamurthy *et al.* (1999), Truman (2000) and Wang *et al.* (2006).

Amongst the twenty constructs, eight were used to measure the dimension of relationship structure, another nine for the dimension of relationship antecedents and three for the dimension of relational outcomes. The scales assessing the structure of the relationship were adapted from the work of Gulati and Stych, 2007; Heide and Miner, 1992; Lee and Kim, 1999; Mohr and Speakman, 1994; Mohr, Nevin and Fisher, 1996; Noordeweir, John and Nevin, 1990; Provan and Skinner, 1989 and Stump and

Heide, 1996) while those measuring relationship antecedents or context were adapted from the work of: Bello and Gilliland (1997), Heide (1994), Heide and John (1992), Kim *et al.* (1998), Mohr, Nevin and Fisher (1996) and Premkumar *et al.*, (2005).

Finally, the 3 outcome's scales were taken from the works of Bensaou and Venkatraman (1995), Chen and Purlraj (2004), Devaraj *et al.*, (2007) and Yllmaz *et al.* (2005).

4.8 Pilot-tests

Two pilot tests were conducted to ensure the validity of the survey instrument. The second pilot test also allowed us to test the proposed research models. The results of the two pilot tests, as well as the modifications made to improve their weaker components, are provided in the next chapter (section 5.2 and 5.3)

4.9 Statistical analyses

4.9.1 Pilot test analyses:

To test the validity of each of the proposed research constructs, three different statistical analyses were conducted. First, Confirmatory Factor Analysis (CFA) was used to test the unidimensionality and the convergent validity of each of the research constructs (Gefen, 2003). "Unidimensionality refers to the existence of one latent trait or construct underlying a set of indicators" (Gerbing and Anderson, 1998, p. 186) and convergent

validity examines the magnitude of the correlation between item measures of a construct (Gerbing *et al.*, 1998).

Second, Cronbach's alpha and the Average Variance Extracted (AVE) were used to assess the internal consistency of each construct. This is defined as "the degree to which several measurement items that reflect it are inter-correlated" (Gefen 2003, p. 28).

Finally, correlations between all pairs of constructs were calculated and a constrained analysis method, proposed by McKnight *et al.* (2002), was used to verify discriminant validity between the constructs. More precisely, this method consist of constraining the covariance of the constructs to verify if the χ^2 of the unconstrained model is significantly lower than the χ^2 of the constrained model. Discriminant validity is defined as "the degree of uniqueness achieved from item measures in defining a latent construct" (Gefen, 2003, p. 30).

4.9.2 Testing conceptual model 1: Moderating perspective

As suggested by Sharma *et al.* (1981) the hypotheses were tested using Moderated Regression Analysis (MRA). This technique offers a straightforward and the most general method for testing contingency hypothesis in which an interaction is implied (Arnold 1982) and has been used in past studies for determining the influence of potential moderator variables (Baron and Kenny 1986; Darrow and Kahl 1982; McKeen

et al. 1994; Stone and Hollenbeck 1989). This approach is different from subgroup analysis because it is an analytical approach which maintains the integrity of a sample yet provides a basis for controlling the effects of a moderator variable. By this procedure, the lost of information resulting from artificial transformation of continuous variable into qualitative one is avoided. As such, the approach recommended by Sharma *et al.* (1981) was followed for applying the MRA technique and identifying the nature of each moderator variable. Their approach considers three regressions where *y* is the dependent variable, *x* the independent variable and *m* the potential moderating variable.

In this case, *y* represents the manufacturer's operational performance *x* joint actions or idiosyncratic investments and *m* an IOIS usage dimension.

1) $y = a + b_1x$
2) $y = a + b_1x + b_2m$
3) $y = a + b_1x + b_2m + b_3xm$

According to Sharma *et al.* (1981), if equations 2 and 3 are not significantly different (i.e., $b_3 = 0$; $b_2 \neq 0$), *m* is not a moderator variable but simply an independent predictor variable. For *m* to be a pure moderator variable, equations 1 and 2 should not be different but should be different form equation 3 (i.e., $b_2 = 0$; $b_3 \neq 0$). For *m* to be classified as a quasi moderator, equations 1, 2 and 3 should be different from each other (i.e., $b_2 \neq b_3 \neq 0$).

4.9.3 Testing conceptual model 2: Fit as gestalt

To empirically test the second conceptual model, a five steps procedure similar to the one used by Bensaou and Venkatraman (1995) was followed. The first two steps were performed in order to identify the underlying gestalts amongst the independent variables by performing cluster analyses which: "...classifies objects so that each is similar to others within the cluster..." (Premkumar *et al.*, 2005), while the remaining two steps; address respectively the descriptive and predictive validity of the uncovered clusters.

The first step was to detect correlations among independent variables. As such, a correlation matrix was constructed using the Pearson correlation coefficient. In step two, configurations of information processing needs were defined by grouping manufacturers according to the variables characterizing the information processing needs. In step three, configurations of information processing capabilities within each configuration obtained in step two were uncovered. The resulting clusters at the end of step 3 represent the final solution (i.e. the dominant patterns of fit between information processing needs and information processing capabilities). Based on Punj and Stewart (1983) recommendations, the following criterion were followed while performing the cluster analyses: (1) use standardized values for each variable, (2) use squared Euclidean distance for similarity assessment, and (3) use Ward's minimum-variance method for cluster formation. Another issue to be addressed in cluster analysis is the selection of the number of clusters (Bensaou and Vekatramen, 1995; Premkumar *et al.*, 2005). It was decided to use the Variation Ratio Criterion (VRC) index, proposed by

Calinski and Harabasz (1974) to determine objectively the number of clusters to be formed.

To assess the descriptive validity (i.e. clusters are significantly different) (step 4) of the cluster identified at the end of step 3 a series of Mann-Whitney U tests were performed based on the variables used to determine the configurations (i.e. information processing needs and information processing capabilities). Similarly, in step 5, a series of Mann-Whitney U tests were performed based on the dependent variable (i.e. manufacturer's operational performance) to assess the cluster's predictive validity.

Chapter 5: Results

This chapter details the results of the two pilot-tests and also the results tied to each of the proposed research models.

5.1 First pilot test results.

The first survey instrument was administered shortly after receiving final approval by the university's ethics committee. It lasted for a period of eight weeks and produced 30 completed questionnaires. Because of the limited sample size, a CFA at a mono-method level of analysis was conducted to assess unidimensionality, convergent validity and internal consistency for each construct of the research model (Venkatraman, 1989). Internal consistency was further assessed by computing the Cronbach's alpha (Hair *et al.* 1998). This section details the results of the statistical analyses as well as the corrective actions undertaken to improve the less robust constructs. Table 3 summarizes the various thresholds for unidimensionnality, internal consistency and convergent validity indices proposed in the literature.

5.1.1 Unidimentionality, convergent validity and internal consistency results:

This segment exposes the unidimentionality, convergent validity and internal consistency results obtained in the first pilot-test for the constructs tied to the relationship structure, antecedents and outcomes.

5.1.1.1 Constructs tied to the structure of the relationship

This sub-section presents the unidimentionality, convergent validity and internal consistency results obtained in the first pilot-test for the constructs tied to the relationship antecedents.

5.1.1.1.1 Centralization

The CFA for the centralisation construct revealed unacceptable unidimensionality through its model indices (table 4). More precisely, the model normed chi-square statistic value (the ratio of chi-square to the degree of freedom) for the model is above 3. The AGFI (Adjusted Global Fit Index), GFI (Global Fit Index), Bentler Bonnet, Comparative Fit Index (CFI) and Incremental Fit Index (IFI) are all below their criterion levels. Finally, the RMSEA (Root Mean Square Error of Approximation) is above 0.1. However, the construct showed acceptable internal consistency posting a Cronbach's alpha of 0.90 and an AVE (Average Variance Explained) of 0.58 both above their respective thresholds of 0.7 and 0.5. Finally, convergent validity could not be confirmed due to three problematic items (i.e., item 1, 6, 7) which posted item loadings and R-squared values below the designated thresholds (table 5).

Faced with these findings and considering the number of items included in this construct (7) vs. the sample size of the pre-test (n=30), a decision was taken to keep the construct as it is for further study. In fact, since the cronbach's alpha and AVE were of 0.90 and 0.58 respectively, we were confident that with a bigger sample the construct

would reach satisfactory unidimensionality through the model indices and that the three problematic items would post satisfactory item loadings and R-squared values.

5.1.1.1.2 Formalization

The CFA for the formalization construct revealed unacceptable unidimensionality through the model indices (table 6). However, internal consistency was confirmed with a Cronbach's alpha of 0.79 and an AVE of 0.519, both above their respective thresholds of 0.7 and 0.5. Furthermore, convergent validity could not be confirmed since two of the items (i.e. item 1 and item 4) posted unsatisfactory item loadings and R-squared values (table 7).

Faced with these results, it was decided to go back to the literature to find a more appriate scale. This second search in the literature revealed that most if not all studies operationnalizing this construct successfully used the same or a very similar scale to the one use here, making it unfeasible to find another relevant scale. Therefore, and after reconsidering the sample size of the pre-test , the Cronbach's alpha and AVE values and the fact that the item loading and R-squared values of the problematic items were close to their respective threshold it was decided to keep the construct as it is for further analysis.

5.1.1.1.3 Participation

The CFA for the participation construct revealed that unidimensionality indices were all unacceptable (table 8). Internal consistency also reported unsatisfactory scores posting

a Cronbach's alpha of 0.48 and an AVE of 0.53. Convergent validity could not be confirmed either since only one of the items (item 3) out of the four posted satisfactory item loadings and R-squared values (table 9). Because of the scope and nature of the problems encountered, it was determined that major changes were required. As such, we decided to go back to the literature and find a more appropriate scale. This process leaded us to the identification and selection of the scale proposed by Mohr and Speakman (1994).

5.1.1.2.4 Shared paradigm

The CFA for the shared paradigm construct revealed that unidimensionality indices were all acceptable (table 10). Internal consistency of the construct was also obtained; with a Cronbach's alpha of 0.90 and an AVE of 0.517 both above their respective thresholds of 0.7 and 0.5. However, convergent validity could not be confirmed since the last item (i.e. item 3) posted unsatisfactory item loadings and R-squared values (table 11).

After a close examination of the problematic item, it was judged that the wording of the item was the source of the problem. Indeed, the last item was the only one not phrased in the negative form and as observed during the data collection, this phrasing format tend to confuse respondent. Therefore the item was rephrased in the negative form.

5.1.1.2.5 Information Exchange

The CFA for the information exchange construct revealed that unidimensionality indices were all acceptable (table 12). Internal consistency of the construct was also obtained with a Cronbach's alpha of 0.90 and an AVE of 0.520 both above their respective thresholds of 0.7 and 0.5. However, convergent validity could not be confirmed since two of the three items (i.e. item 1 and item 2) posted unsatisfactory item loadings and R-squared values (table 13).

After a close examination of the problematic items, it was judged that the wording of the items was the source of the problem. First, the item 1 wording was judged inaccurate since two concepts seemed to be present in the item. In fact, respondent also made that observation while answering the survey. Therefore, item 1 was split into two new items each one assessing one of the two concepts present originally. Second, item 2 was also rephrased in order to address a basic error in wording.

5.1.1.2.6 Joint Actions

The CFA for the joint actions construct revealed that unidimensionality indices were all unacceptable (table 14). Internal consistency also reported unsatisfactory scores; with a Cronbach's alpha of 0.48 and an AVE of 0.228 both under their respective thresholds of 0.7 and 0.5. Convergent validity could not be confirmed either since none of the items posted satisfactory item loadings and R-squared values (table 15). Because of the scope and the nature of the problems encountered, it was determined that major changes were required. As such, we decided to go back to the literature to find a more

appropriate scale. This process leaded us to the identification and the selection of of scale proposed by Gulati and Stich (2007).

5.1.1.2.7 Monitoring

The CFA for the monitoring construct revealed that all unidimensionality indices were unacceptable (table 16). Internal consistency also reported unsatisfactory scores; with a Cronbach's alpha of 0.75 and an AVE of 0.362. Convergent validity could not be confirmed either since only one item (i.e. item 6) posted satisfactory item loadings and R-squared values (table 17). Because of the scope and the nature of the problems encountered, it was determined that major changes were required. As such, we decided to go back to the literature to find a more appropriate scale. This process leaded us to the identification and the selection of a scale proposed by Stump and Heide (1996).

5.1.1.2.8 Assistance

The CFA for the assistance construct revealed that all unidimensionality indices were acceptable (table 18). Internal consistency of the construct was also obtained with a Cronbach's alpha of 0.75 and an AVE of 0.571 both above their respective thresholds of 0.7 and 0.5. However, convergent validity could not be confirmed since one item (i.e. item 1) posted unsatisfactory item loadings and R-squared values (table 19).

After an examination of the problematic item and the entire scale, it was determined that first rephrasing the item would not solve the issue and that omitting the item was unfeasible since the scale only had three items. Face with these results and because it

was judged to risky to continue with this scale, we decided to go back to the literature to find a better scale. This process leaded us to the identification and the selection of the scale proposed by Noordeweir *et al.* (1990).

5.1.1.2 Constructs tied to the relationship antecedents

This sub-section presents the unidimentionality, convergent validity and internal consistency results obtained in the first pilot-test for the constructs tied to the relationship antecedents.

5.1.1.2.1Component Market

The CFA for the component market construct revealed that all unidimensionality indices were unacceptable (table 20). Internal consistency also reported unsatisfactory scores; with a Cronbach's alpha of 0.48 and an AVE of 0.228 both above their respective thresholds of 0.7 and 0.5. Convergent validity could not be confirmed either since none of the items posted satisfactory item loadings and R-squared values (table 21). Because of the scope and the nature of the problems encountered, it was determined that major changes were required. As such, it was decided to go back to the literature and find a more appropriate scale. This process leaded us to the identification and the selection of the scale proposed by Premkumar *et al.* (2005).

5.1.1.2.2 Component Complexity

The CFA for the component complexity construct revealed that the model showed acceptable unidimensionality since a majority of the model indices have satisfactory

scores (table 22). This construct also reported acceptable internal consistency scores posting a Cronbach's alpha of 0.92 and an AVE of 0.802 both above their respective thresholds of 0.7 and 0.5. Convergent validity was also confirmed posting satisfactory item loadings and R-squared values (table 23). Therefore, it was decided to keep the construct as it is for further analysis.

5.1.1.2.3 Component Criticality

The CFA for the component criticality construct revealed that the model showed acceptable unidimensionality since a majority of the model indices had satisfactory scores (table 24). This construct also reported acceptable internal consistency scores posting a Cronbach's alpha of 0.92 and an AVE of 0.838, both above their respective thresholds of 0.7 and 0.5. Convergent validity was also confirmed, posting satisfactory item loadings and R-squared values (table 25). Therefore, it was decided to keep the construct as it is for further analysis.

5.1.1.2.4 Manufacturer's dependence

The CFA for the dependence firm construct revealed acceptable unidimensionality through the model indices (table 26). However, this construct reported unacceptable internal consistency scores posting a Cronbach's alpha of 0.54 and an AVE of 0.32 both under their respective thresholds of 0.7 and 0.5. Convergent validity couldn't be confirmed since only one of the four items (item 3) posted satisfactory item loadings and R-squared values (table 27).

After an examination of the problematic items it was determined that the wording of item 4 seemed to be the problem. Therefore, the item was rephrased in order to address the issue.

5.1.1.2.5 Suppliers dependence

The CFA for the dependence supplier construct revealed acceptable unidimensionality through the model indices (table 28). This construct also reported acceptable internal consistency scores posting a Cronbach's alpha of 0.83 and an AVE of 0.598 both above their respective thresholds of 0.7 and 0.5. However, convergent validity couldn't be confirmed since two of the items (item 3 and item 4) posted unsatisfactory item loadings and R-squared values (table 29).

After a close examination of the problematic items, it was judged that the wording of the items was the source of the problem. More precisely, the sense of the question was judged ambiguous. Indeed, these items were phrased in a double negative form and as observed during the data collection, this phrasing format tends to confuse respondent. Therefore, the two problematic items were rephrased in order to address this source of misinterpretation.

5.1.1.2.6 Idiosyncratic Investment

The CFA for the idiosyncratic investment construct revealed that all unidimensionality indices were acceptable (table 30). This construct also reported acceptable internal consistency scores; posting a Cronbach's alpha of 0.79 and an AVE of 0.627 both

above their respective thresholds of 0.7 and 0.5. However, convergent validity could not be confirmed since one of the items (item 1) posted unsatisfactory item loadings and R-squared values (table 31).

After an examination of the problematic item and the entire scale, it was determined that first rephrasing the item would not solve the issue and that omitting the item was unfeasible since the scale only had three items. Face with these results and because it was judged to risky to continue with this scale, we decided to go back to the literature to find a better scale. This process leaded us in the identification and the selection of a scale proposed by Heide and John (1992).

5.1.1.2.7 Conflict

The CFA for the conflict construct revealed that all unidimensionality indices were acceptable (table 32). This construct also reported acceptable internal consistency scores posting a Cronbach's alpha of 0.90 and an AVE of 0.755 both above their respective thresholds of 0.7 and 0.5. Convergent validity was confirmed as well with all items posting satisfactory item loadings and R-squared values (table 33). Therefore, it was decided to keep the construct as it is for further analysis.

5.1.1.2.8 Task Analyzability

The CFA for the task analyzability construct revealed that all unidimensionality indices were unacceptable (table 34). However, this construct reported acceptable internal consistency scores posting a Cronbach's alpha of 0.90 and an AVE of 0.63 both above

their respective thresholds of 0.7 and 0.5. Convergent validity couldn't be confirmed, since the first item posted unsatisfactory item loadings and R-squared values (table 35).

After a close examination of the problematic items, it was judged, that a slight error in the wording of the item was the source of the problem. Therefore, the first item was rephrased and we were confident that this would allow the construct to reach acceptable unidimentionality and convergent validity scores.

5.1.1.2.9 Task Variability

The CFA for the task variability construct revealed that all unidimensionality indices were acceptable (table 36). This construct also reported acceptable internal consistency scores posting a Cronbach's alpha of 0.91 and an AVE of 0.741 both above their respective thresholds of 0.7 and 0.5. Convergent validity was also confirmed, with all items posting satisfactory item loadings and R-squared values (table 37). Therefore, it was decided to keep the construct as it is for further analysis.

5.1.1.3 Construct tied to the relational outcomes

This sub-section presents the unidimentionality, convergent validity and internal consistency results obtained in the first pilot-test for the constructs tied to the relational outcomes.

5.1.1.3.1 Manufacturer's operational performance

The CFA for the manufacturer's operational performance construct revealed that all unidimensionality indices were unacceptable (table 38). The construct also reported unsatisfactory internal consistency scores with a Cronbach's alpha of 0.67 and an AVE of 0.262 both under their respective thresholds of 0.7 and 0.5. Convergent validity could not be confirmed either since only two items (i.e. item 6 and 7) posted satisfactory item loadings and R-squared values (table 39). Faced with these results and because of the scope and nature of the problems encountered, we decided to go back to the literature and find a more appropriate scale. This process leaded us in the identification and the selection of a scale proposed by Chen and Purlraj (2004).

5.1.1.3.2 Quality of information exchanged

The CFA for the quality of information exchanged construct revealed that all unidimensionality indices were acceptable (table 40). This construct also reported acceptable internal consistency scores; posting a Cronbach's alpha of 0.90 and an AVE of 0.598 both above their respective thresholds of 0.7 and 0.5. However, the convergent validity could not be confirmed since two items (i.e. item 4 and 5) posted unsatisfactory item loadings and R-squared values (table 41).

Despite the inability to confirm the convergent validity we decided to keep the construct as it is for further analysis. This decision was based on the fact that the test sample (n=30) is relatively small for the number of items (6) in the construct and we were

confident that with a bigger sample the construct would reach satisfactory indices values for convergent validity.

5.1.1.3.3 Manufacturer's trust

The CFA for the manufacturer's trust construct revealed that all unidimensionality indices were unacceptable (table 42). However, this construct reported acceptable internal consistency scores posting a Cronbach's alpha of 0.92 and an AVE of 0.577 both above their respective thresholds of 0.7 and 0.5. Convergent validity could not be confirmed since two items (i.e. item 1 and 4) posted unsatisfactory item loadings and R-squared values (table 43).

Faced with these results and despite the inability to obtain satisfactory unidimentionnaly and convergent validity scores, it was decided to keep the construct as it is for further analysis. This decision was based on the fact that the test sample (n=30) is relatively small for the number of items (8) in the construct and we were confident that with a bigger sample the construct would reach satisfactory indices values for unidimensionnality and convergent validity.

5.2. Second pilot test results.

The improved version of the survey instrument was then subjected to a second pilot-test which lasted another 8 weeks and produced 55 completed questionnaires. Again, because of the limited sample size, a CFA at a mono-method level of analysis was conducted and Cronbach's alphas were computed. Finally, discriminant validity of the

constructs was assessed through correlations between all pairs of constructs and a constrained analysis method proposed by McKnight *et al.* (2002). This section presents the results of these statistical analyses.

5.2.1 Unidimentionality, convergent validity and internal consistency results:

This segment exposes the unidimentionality, convergent validity and internal consistency results obtained in the second pilot-test for the constructs tied to the relationship structure, antecedents and outcomes.

5.2.1.1 Construct tied to the relationship structure

This sub-section presents the unidimentionality, convergent validity and internal consistency results obtained in the second pilot-test for the constructs tied to the relationship structure.

5.2.1.1.1 Centralization

The first attempt to perform a CFA on the construct of centralization informed us that three items had to be dropped (i.e. items 1, 6 and 7) from the test since internal consistency could not be reach. The CFA with the remaining four items showed the construct had acceptable unidimensionality and internal consistency scores (table 44 and 45) and convergent validity was also confirmed (table 66).

5.2.1.1.2 Formalization

The CFA for the formalization construct revealed that all unidimensionality indices were acceptable (table 46). The construct also reported satisfactory internal consistency scores with a Cronbach's alpha of 0.732 and an AVE of 0.53 both above their respective thresholds of 0.7 and 0.5. However, convergent validity could not be confirmed since two items (i.e. item 1 and 3) posted unsatisfactory item loadings and R-squared values (table 47).

5.2.1.1.3 Participation

The first attempt to perform a CFA on the construct of participation informed us that the third item had to be dropped from the test since unidimensionality could not be reach. The CFA with the remaining three items showed acceptable unidimensionality scores (table 48). However, the construct also reported unsatisfactory internal consistency scores with a Cronbach's alpha of 0.72 and an AVE of 0.49. Convergent validity could not be confirmed either since the second item posted unsatisfactory item loading and R-squared values (table 49).

5.2.1.1.4 Shared paradigm

The CFA for the share paradigm construct revealed that all unidimensionality indices were unacceptable (table 50). However, this construct reported acceptable internal consistency scores posting a Cronbach's alpha of 0.72 and an AVE of .505 both above their respective thresholds of 0.7 and 0.5. Convergent validity could not be confirmed since one item (i.e. item 1) posted unsatisfactory item loadings and R-squared values

(table 51). These results indicate that the modification conducted previously on the third item partly solved the convergent validity problem. In fact, as expected, the modifications solved the third item's convergent validity problem but unexpectedly revealed new convergent validity issues with the first item.

5.2.1.1.5 Information Exchange

The first attempt to perform a CFA on the construct of information exchange informed us that the last item had to be dropped from the test since it posted unsatisfactory items loading and AVE values. The CFA with the remaining three items showed acceptable unidimensionality and internal consistency (table 52). Convergent validity for the construct could not be confirmed since the first item posted unsatisfactory item loading and R-Squared values (table 53).

5.2.1.1.6 Joint Actions

The first attempt to perform a CFA on the construct of joint actions informed us that the fifth item had to be dropped from the test since internal consistency could not be reach. The CFA with the remaining five items showed acceptable unidimensionality and internal consistency (table 54). However, convergent validity for the construct could not be confirmed (table 55).

5.2.1.1.7 Monitoring

The CFA performed on monitoring showed acceptable unidimensionality through its model indices (table 56). However this construct reported unacceptable internal

consistency scores posting a Cronbach's alpha of 0.69 and an AVE .395 both under their respective thresholds of 0.7 and 0.5. Convergent validity could not be confirmed either since only one item (i.e. item 2) posted satisfactory item loadings and R-squared values (table 57).

5.2.1.1.8 Assistance

The CFA performed for the assistance construct showed acceptable unidimensionality through its model indices (table 58). This construct also reported acceptable internal consistency scores posting a Cronbach's alpha of 0.774 and an AVE of .527 both under their respective thresholds of 0.7 and 0.5. However, convergent validity could not be confirmed since only two items (i.e. item 2 and item 4) posted satisfactory item loadings and R-squared values (59).

5.2.1.2 Constructs tied to the relationship antecedents

This sub-section presents the unidimentionality, convergent validity and internal consistency results obtained in the second pilot-test for the constructs tied to the relationship antecedents.

5.2.1.2.1 Component Market

The CFA performed on component market showed unacceptable unidimensionality through its model indices (table 60). This construct also reported unacceptable internal consistency scores posting a Cronbach's alpha of 0.626 and an AVE of 0.392 both under their respective thresholds of 0.7 and 0.5. Convergent validity couldn't be

confirmed either, since only two items (item 3 and item 4) posted satisfactory item loadings and R-squared values (table 61). These results clearly indicate that our corrective actions haven't solved the problems identified during the first pilot test.

5.2.1.2.2 Component Complexity

The CFA for the component complexity construct revealed that all unidimensionality and internal consistency indices were acceptable (table 62). Convergent validity was also confirmed since all items posted satisfactory item loadings and R-squared values (table 63).

5.2.1.2.3 Component Criticality

The CFA for the component criticality construct revealed that all unidimensionality and internal consistency indices were acceptable (table 64). However and contrary to the first pilot test, convergent validity couldn't be confirmed since the first item posted unsatisfactory item loadings and R-squared values (table 65).

5.2.1.2.4 Manufacturer's dependence

The first attempt to perform a CFA on the construct of dependence firm informed us that the second item had to be dropped from the test since it posted unsatisfactory items loading and R-squared values. The CFA with the remaining three items showed an acceptable unidimensionality and internal consistency (table 66). Convergent validity for the construct was also confirmed (table 67). These results indicate that the corrective

action (rephrasing the fourth item) partly solved the convergent validity problem reported during the first pilot test.

5.2.1.2.5 Supplier's dependence

The first attempt to perform a CFA on the construct of dependence supplier informed us that the fourth item had to be dropped from the test since it posted unsatisfactory items loading and R-squared values. The CFA with the remaining three items showed acceptable unidimensionality and internal consistency indices (table 68). Convergent validity for the construct was also confirmed (table 69). These results indicate that the corrective action applied to item 3 and 4 following the first pilot test produced partly the anticipated result. Rephrasing items 3 and 4 proved to be the solution for the third item but was insignificant to solve problems related to the fourth items.

5.2.1.2.6 Idiosyncratic Investment

The first attempt to perform a CFA on the construct of idiosyncratic investment informed us that the fourth item had to be dropped from the test since internal consistency could not be reached. The CFA with the remaining five items showed acceptable unidimensionality and internal consistency (table 70). However, convergent validity for the construct could not be confirmed since three out of five items posted unsatisfactory item loadings and R-squared values (table 71).

5.2.1.2.7 Conflict

The CFA for the conflict construct revealed that all unidimensionality indices were acceptable (table 72). This construct also reported acceptable internal consistency scores posting a Cronbach's alpha of 0.857 and an AVE of 0.608 both above their respective thresholds of 0.7 and 0.5. However and contrary to the first-pilot survey, convergent validity could not be confirmed since one item (i.e. item 1) posted unsatisfactory item loadings and R-squared values (table 73).

5.2.1.2.8 Task Analyzability

The CFA for the task analyzability construct revealed that all unidimensionality indices were acceptable (table 74). This construct also reported acceptable internal consistency scores posting a Cronbach's alpha of 0.901 and an AVE of 0.719 both above their respective thresholds of 0.7 and 0.5. Although, convergent validity could not be confirmed since one item (i.e. item 1) posted unsatisfactory item loadings and R-squared values (table 75).

5.2.1.2.9 Task Variability

The CFA for the task variability construct revealed that all unidimensionality indices were acceptable (table 76). This construct also reported acceptable internal consistency scores posting a Cronbach's alpha of 0.875 and an AVE of 0.654 both above their respective thresholds of 0.7 and 0.5. Although convergent validity could not be confirmed since two items (i.e. item 1 and item 3) posted unsatisfactory item loadings and R-squared values (table 77).

5.2.1.3 Construct tied to the relational outcomes

This sub-section presents the unidimentionality, convergent validity and internal consistency results obtained in the second pilot-test for the constructs tied to the relational outcomes.

5.2.1.3.1 Manufacturer's operational performance

The CFA for the task analyzability construct revealed that all unidimensionality indices were acceptable (table 78). The construct reported unacceptable internal consistency scores since the AVE was under its respective threshold of 0.50. However, its Cronbach's alpha of 0.805 is well above its respective limit of 0.7. Convergent validity could not be confirmed either since only two items (i.e. item 3 and item 4) posted unsatisfactory item loadings and R-squared values (table 79).

5.2.1.3.2 Quality of information exchanged

The CFA for the quality of information exchanged construct revealed that all unidimensionality and internal consistency indices were acceptable (table 80). Convergent validity was also confirmed since all items posted satisfactory item loadings and R-squared values (table 81). Therefore, it was decided to keep the construct as it is for further analysis

5.2.1.3.3 Manufacturer's trust

The CFA for the manufacturer's trust construct revealed that all unidimensionality indices were acceptable (table 82). This construct also reported acceptable internal

consistency scores posting a Cronbach's alpha of 0.944 and an AVE of 0.631 both above their respective thresholds of 0.7 and 0.5. However, convergent validity could not be confirmed since two items (i.e. itmem 1 and item 4) posted unsatisfactory item loadings and R-squared values (table 83).

The second pilot-test's results indicate that only four constructs showed unacceptable unidimentionality and internal consistency: shared paradigm, monitoring, component market and manufacturer's operational performance.16 out of the 20 constructs under study (centralization, formalization, participation, information exchange, joint actions, assistance, component complexity, component criticality, manufacturer's dependence, supplier's dependence, idiosyncratic investments, conflict, task analyzability, task variability, quality of the information exchange and trust) achieved satisfactory scores of unidimentionality and internal consistency. Out of these 16 constructs, 7 (centralization, information exchange, component complexity, manufacturer's dependence, supplier's dependence, quality of information exchange and, trust) posted satisfactory AVE, item loadings and R-squared values, thus confirming each construct's convergent validity. On the other hand, 9 of them (formalization, participation, joint actions, assistance, component criticality, idiosyncratic investments, conflict, task analyzability and task variability) only posted satisfactory scores of AVE. Although it would be better to confirm each construct's convergent validity with acceptable item loading and R-squared values, satisfactory AVE scores is judged to be enough to specify their convergent validity (Hair *et al.*, 1998). Therefore, it is assume that the majority of the constructs operationalized in this study: centralization,

formalization, participation, information exchange, joint actions, assistance, component complexity, component criticality, manufacturer's dependence, supplier's dependence, idiosyncratic investments, conflict, task analyzability, task variability, quality of the information exchange and trust have achieved acceptable convergent validity.

The internal consistency and convergent validity scores of the manufacturer's operational performance construct are problematic since this variable is critic in both models of this research. In fact, even though this construct posted satisfactory unidimensionality and Cronbach's alpha scores, it posted unsatisfactory AVE, item loading and R-squared values. Despite this set-back it was decided to keep the scale for further analysis since: (1) unidimensionality values are satisfactory, (2) the construct's Cronbach alpha is well over its respective threshold, (3) several authors have measured operational performance with this scale or a very similar one (Chen and Paulraj, 2004; Devaraj *et al.*, 2007), (4) its generally recognize that operational performance is measured along the four dimension (Flexibility, delivery, quality and cost) addressed in this scale (Chen and Paulraj, 2004; Devaraj *et al.*, 2007, Vickery *et al.*, 1993) and (5) the sample size of this study is relatively small for the number of item characterizing this construct.

As for the operationalization of shared paradigm, monitoring and component market, further investigations which exceed the frame of this research will need to be conducted.

5.3 Discriminant validity results:

Results of the discriminant validity analyses show strong evidence of discriminant validity. First, for each pair of construct the χ^2 of the unconstrained model is significantly lower than the χ^2 of the constrained model (see table 84) and second, all correlations between two variables in the correlation matrices (see table 85) are lower than the designated threshold of 0.8 (Venkatraman, 1989)

5.4 Moderation test results

Results of the moderated regression analyses are presented in Tables 86 and 87. Looking at tables 86 we can see that hypothesis H1 which posited that joint actions positively impacts the manufacturer's operational performance is not supported. Indeed, even though the beta coefficient of the effect of joint action on the manufacturer's operational performance is in the anticipated direction (ß = 0.59) but its effect is insignificant (p = .683).

H2a, H2b, H2c respectively posited that the impact of joint actions on the manufacturer's operational performance will be stronger (a) when capabilities of the IOISs are greater than when capabilities of the IOISs are more limited, (b) when volume of use of IOISs is larger than when volume of IOISs use is small and (c) when internal integration of the IOISs is higher than when internal integration of the IOISs is lower. Results indicate that capabilities of the IOISs has no direct impact on the manufacturer's operational performance but do has indirect effects (see table 86). Indeed, the

standardized ß of this variable in the second equation of the MRA is; -0.327 ($p > 0.10$) while its standardized ß for its interactive term is; 0.965 ($p < 0.10$). Therefore capabilities of the IOISs can be considered as a pure moderator and H2a is statistically supported. On the other hand, H2b is not supported since volume of use of IOISs has no direct or indirect impact on the manufacturer's operational performance (see table 86). As for internal integration of the IOISs, results indicate that this variable has no direct impact on the manufacturer's operational performance but do has indirect effects (see table 86). Indeed the standardized ß of the variable in the second equation of the MRA is 0.138 ($p > 0.10$) while its standardized ß of its interactive term is 1.572 ($p < 0.01$). Therefore, internal integration of the IOISs can be considered as a pure moderator and H2c is statistically supported.

Results summarized in tables 87 do not support hypothesis H3 which posited that idiosyncratic investments positively impacts operational. Specifically, the beta coefficient ($ß = -0.136$) for idiosyncratic investment on the manufacturer's operational performance is insignificant ($p > 0.10$).

H4a, H4b, H4c respectively posited that the impact of idiosyncratic investments on the manufacturer's operational performance will be stronger (a) when capabilities of the IOISs are greater than when capabilities of the IOISs are more limited, (b) when volume of use of IOISs is larger than when volume of IOISs use is small and (c) when internal integration of the IOISs is higher than when internal integration of the IOISs is lower. Results indicate that capabilities of the IOISs (see table 128) and volume of use of

IOISs (see table 87) have no direct impact on the manufacturer's operational performance but do have indirect effects on the manufacturer's operational performance. Indeed the standardized ß of these variables in the second equation of the MRA are respectively 0.007 ($p > 0.10$), and 0.036 ($p > 0.10$) while the standardized ß of their interactive term are respectively 1.351 ($p < 0.001$) and 1.1551 ($p < 0.01$). Therefore capabilities of the IOISs and volume of use of IOISs can be considered as pure moderators and H4a and H4b are statistically supported. However, results are different for H4c since internal integration of the IOISs has no direct or indirect impact on the manufacturer's operational performance (see table 87) and therefore rejecting H4c.

5.5 Gestalt test results:

The correlation matrix revealed that only two variables: capabilities of the IOISs and volume of use of IOISs are highly correlated with an $r = 0.94$ ($p < .000$) well over the 0.8 threshold. Therefore, of the two variables, one had to be drop and it was decided to keep capabilities of the IOISs for further analyses since capabilities of the IOISs had a more significant impact in model 1.

The cluster analysis conducted across the two variables for information processing needs resulted in a two cluster solution: cluster c_1 with $n_1 = 46$ and cluster c_2 with $n_2 = 9$. Based on the Mann Whitney U test the two clusters were significantly different for both information processing needs variables ($p_{joint} < 0.02$, $P_{idio} < 0.000$). Then the same clustering algorithm and procedures were run across the two information processing

capabilities variables in cluster c_1 but not in cluster c_2, since the size of the second cluster is too small. As a results, cluster c_1, was split into two sub-cluster, cluster c_{11} with $n_{11} = 9$ (16.3 % of the sample) named: market relationships and cluster c_{12} with $n_{12} = 19$ (34.5 % of the sample) named: cooperative relationships. Again, based on the Mann-Whitney U test, both clusters were significantly different ($p_{cap} < 0.000$, $p_{inter} < 0.076$) In summary, the data analytical procedure uncovered two configurations of fit between information processing needs and capabilities.

Man-Whitney U tests based on the four independent variables use to generate the clusters indicate that the market relationship cluster and the cooperative relationship cluster were significantly different on the basis of idiosyncratic investments (p= 0.39), capabilities of the IOISs ($p < 0.000$) and internal integration of the IOISs (p= 0.069) but not for joint actions (p = 0.226). More precisely, the cooperative relationships cluster has the highest level of idiosyncratic investment (mean = 2,04, sd. = 0.82), capabilities of the IOISs (mean = 22,53, sd. = 3.32) and internal integration of the IOISs (mean = 4,53, sd. = 2.19) and consequently; the market relationship cluster has the lowest level of idiosyncratic investment (mean = 1.44, sd. = 0.66), capabilities of the IOISs (mean = 12.22, sd. = 4.12) and internal integration of the IOISs (mean = 2,87, sd. = 2.29).

Man-Whitney U test revealed that the market relationship cluster and the cooperative relationship cluster were significantly different on the basis of manufacturer's operational performance (p = 0.068). Thus, indicating that the market relationship cluster (mean =

6.06, sd. = 1.01) has a higher level of performance than the cooperative relationship cluster (mean = 5.25, sd. 1.13).

Chapter 6: Discussion

6.1 Discussion on principal results

First, results from model 1 suggest that IOISs usage moderates the relationship between joint actions and manufacturer's operational performance and idiosyncratic investment and manufacturer's operational performance. Thus indicating that manufacturer's should take into account IOISs usage when planning, implementing and performing joint actions or idiosyncratic investments with their supplier.

Another interesting aspect rising from model 1 results is the non-significance of joint actions and idiosyncratic investments directs impact on manufacturers' operational performance. Even thought surprising, these results are also corroborated by the second model's outcomes. Indeed, manufacturers belonging to the market relationship cluster (manufacturers with lower level of IPNs and IPCs) outperformed manufacturer belonging to the cooperative relationship cluster (manufacturer with higher level of IPNs and IPCs), hence indicating that variables characterizing information processing needs and information processing capabilities by themselves are not adequate predictors of manufacturer's performance. However, when aligned together, these variables then become adequate predictors of the manufacturers' operational performance, thus validating the contingency theory and its underlying concept of fit. As such, in the context where manufacturers place more and more emphasis on interorganizational relationships and supplier partnerships, manufacturers should assess and match their information processing needs with their information processing capabilities.

6.2 Theoretical and practical contributions

In regard to the research objectives, this research brings two important theoretical contributions. First, this research has identified and initiated the operationalization of the key variables necessary to the study of IOISs alignment in the context of dyadic relationships between manufacturers and suppliers. Second, this research by empirically testing two perspective of fit not only increases our understanding of the contingency theory but also improves our limited knowledge towards the alignment of IOISs in an interorganizational context.

From a practical standpoint, our models and related results allow manufacturing managers to better plan, implement and use IOISs to optimally support their portfolio of supplier relationships. Moreover, our results inform managers that there is not one but several optimal ways to strategically manage IOISs.

6.3 Limits

There are some limitations that have to be acknowledged. First, the manufacturer's operational performance scale's validity needs to be improved as well as the validity of some other construct (shared paradigm, monitoring and component market). Therefore, further investigations which exceed the frame of this research must be conducted to improve their unidimensionality, internal consistency and convergent validity. The second limitation concerns the relatively small sample size of the study. In fact, a trade-off between obtaining rich and accurate information from a limited number of manufacturers through face-to-face interview or collecting data via a large scale survey

with a lot of manufacturers, which would have resulted in a low response rate due to the length and complexity of the survey instrument and some doubts on accuracy of the responses. In the end, it was decided to use the first approach and feel fortunate to be able to rely on accurate data. Finally, the last limitations concern the data used in this study. More precisely, the data were collected from one single respondent on the manufacturer's side of the dyad, which may cause common method variance. Furthermore, this research relied on a non-probabilistic data collection procedure and collected data from manufacturing firms all located in the Quebec province belonging to four specific industrial sectors thereby limiting generalization of the findings.

6.4 Future research avenues

The first research avenue to consider is to conduct extensive research in order to successfully operationalize the problematic constructs identified during the pilot tests of this study. This would allow researchers to have, at hand, a set of effective scale suitable to assess the alignment of IOISs in an interorganizational context.

The second research avenue to consider is to further investigate the relationships between joint actions and manufacturer's operational performance and idiosyncratic investments and manufacturer's operational performance. Indeed, contrary to findings previously obtained by several researchers, results of this research do not support the hypothesis tied to the direct and positive impact of these two activities on manufacturer's operational performance. Further investigating this phenomenon is

required in order to determine whether such contradictory findings are circumstantial or a general trend in the context of interorganizational relationships.

The third research avenue to consider is to use and adapt our IOISs alignment framework developed in the context of manufacturer-supplier relationships to examine the alignment of IOISs in the context of manufacturer-customer relationships. Assessing these different alignment contexts would allow researchers and managers to better understand and compare the manufacturer's outcomes of aligning their IOISs with their downstream and upstream partners.

Furthermore, even though this study focused on dyadic relationships (the simplest form of business relationship)(Straub *et al.* 2004), many other form of interorganizational relationship exists. Thus, another research avenue to consider is to investigate the alignment of IOISs in a more complex setting involving a multitude of partners. This could allow researchers and managers to better understand the impact of aligning IOISs between a multitude of partners and perhaps an entire supply chain.

In this study, only two of the six perspectives of fit proposed by Venkatraman (1989) were used. Since each perspective provides unique insight on alignment, and considering that no researchers have used all the different perspectives to study a particular phenomenon at the interorganizational level, it would be interesting to use the four remaining perspectives to assess the alignment of IOISs in the setting proposed by

this study. This could improve our understanding of not only the effects of aligning IOISs but also on the value of the different perspectives.

6.5 Conclusion

In conclusion this research as achieved both of its objectives. First, this study has identified and operationnalized the key variables required to assess the strategic alignment of IOISs in the context of a dyadic relationship between a manufacturer and its supplier for the procurement of one particular component. Second, this study has also used a subset of these variables to test two alignment perspectives: fit as moderation and fit as gestalt. More precisely, this study has identified four key dimensions tied to the study of IOIS alignment in the context of interorganizational relationship (relationship structure, antecedents, outcomes and IOIS usage) and the variables that characterize them. Also, by using a subset of these variables to test two alignment perspectives, this study has demonstrated that the alignment of IOISs is primordial in the context of manufactuer-supplier relationship and that there is more than one optimal way for manufacturer to manage their IOISs.

TABLES

Table 1: Robicheaux and Coleman's list of relational antecedents and outcomes

Antecedents	
Internal Economy	**External Economy**
• Asset specificity	• Capacity munificence
• Transaction frequency	• Homo/Heterogeneity
• Performance/ambiguity	• Stability
• Synergy	• Concentration
	• Turbulence
	• Competitiveness
	• Uncertainty
Internal Polity	**External Polity**
• Power/Dependence balance	• Culture
• Role integrity	• Regulation
• Tolerance for control	• Power/Dependence balance
• Desire for autonomy	
• Cooperation/Conflict	
• Communication strategy	
• Opportunism	
Outcomes	
Polity performance	**Economic performance**
• Influence	• Efficiency
• Commitment	o Marketing expense ratio
• Satisfaction	o Inventory turnover
• Relationship quality	o Profit margin
o Solidarity (trust)	• Effectiveness
o Flexibility	o Sales growth
o Continuity expectation	o Market share
o Goal compatibility	o Product/Service quality
	o Customer satisfaction
	• Adaptiveness
	• Innovativeness

Table 2: List of original scales and measures

Relationship structure		
Centralization	**Source:** Provan and Skinner (1989)	**Scale:** Interval 1-7 (likert)
I have the final say in decisions regarding day-to-day operations		
Any major decision that I make has to have this company's approval		
In my dealings with this company, even quite small matters have to be referred to someone higher up for a final answer		
I have to ask company reps before I do almost anything in business		
I can take very little action on my own until this company or its reps approve it		
My primary equipment supplier makes the major decisions affecting my business and tells me after the fact		
I am left alone to make day-today decisions for myself		
Internal consistency: α= 0.76		
Participation	**Source:** Mohr and Speakman (1994)	**Scale:** Interval 1-7 (likert)
Our advice and counsel is sought by this manufacturer		
We participate in goal setting and forecasting with this manufacturer		
We help the manufacturer in its planning activities		
Suggestions by us are encourage by this manufacturer		
Internal consistency: α= 0.84		
Formalization	**Source:** Mohr, Nevin and Fisher (1996)	**Scale:** Interval 1-7 (likert)
In coordinating our activities with this manufacturer, formal communication channels are followed (i.e.,channels are regularized, structured modes versus casual, informal, word-of-mouth modes)		
The terms of our relationship have been written down in detail		
The manufacturer's expectations of us are communicated in detail		
The terms of our relationship have been explicitly verbalized and discussed		
Internal consistency: α= 0.86		
Shared paradigm	**Source:** Lee and Kim (1999)	**Scale:** Interval 1-7 (likert)
In our relationship, we and our supplier		
... have different corporate cultures from one another		
... have a hard time understanding one another's business rules and forms		
... are similar to the processes of problem solving, decision making, and communication		
Internal consistency: α= 0.63		

Joint actions	**Source:** Gulati and Stych 2007	**Scale:** Interval 1-7 (likert)
Supplier's involvement in the following activities:		
Initial design		
Quality improvement		
Cost control		
Product modification		
Production process		
Sub-sourcing		
Forecasting commodity requirements		
Internal consistency: α= 0.83		
Monitoring	**Source:** Stump and Heide (1996)	**Scale:** Interval 1-7 (likert)
Product quality		
Delivery timeliness		
Price competitiveness		
Order accuracy		
Internal consistency: α= 0.82		
Assistance	**Source:** Noordeweir, John and Nevin (1990)	Interval 1-7 (likert)
Supplier calls in advance to advise us of shipment (delivery) problems		
Supplier makes an effort to help us during emergencies		
Supplier recommends stock substitutes when delivery troubles develop		
Supplier helps us in value analysis ideas, cost reductions, problem solving, etc		
Supplier advises us of potential problems in meeting our needs		
Internal consistency: n/a		
Information exchange	**Source:** Heide and Miner (1992)	Interval 1-7 (likert)
In this relationship, it is expected that any information that might help the other party will be provided to them		
Information is informally exchanged in this relationship		
It is expected that we keep each other informed about events or changes that may affect the other party		
Exchange of information in this relationship takes place frequently		
It is expected that the parties will provide proprietary information if it can help the other party		
Internal consistency: α= 0.71		

Relational Antecedents								
Component market	**Source:** Premkumar *et al.* (2005)							**Scale:** Interval 1-7 (likert)
There is significant price variation among suppliers of this product								
There is considerable variation in quality/service among suppliers								
Over time, the price of this product fluctuates widely								
Over time, the availability of this product fluctuates widely								
Internal consistency: α= 0.71								
Component complexity	**Source:** Bello and Gilliland (1997)							**Scale:** Interval 1-7 (likert)
Unsophisticated	1	2	3	4	5	6	7	Sophisticated
Non technical	1	2	3	4	5	6	7	Technical
Low engineering content	1	2	3	4	5	6	7	High engineering content
Internal consistency: α= 0.86								
Component criticality	**Source:** Premkumar *et al.* (2005)							**Scale:** Interval 1-7 (likert)
Stock-out of this product will create major disruptions to operations								
This product is critical to our operations								
This product's quality has a significant effect on the performance of the end product								
Internal consistency: α= 0.88								
Idiosyncratic investments	**Source:** Heide and John (1992)							**Scale:** Interval 1-7 (likert)
We have made significant investments in tooling and equipment dedicated to our relationship with this supplier								
This supplier has some unusual technological norms and standards, which have required adaptation on our part								
Training and qualifying this supplier has involved substantial commitments of time and money								
Our production system has been tailored to using the particular items bought from this supplier								
Our production system has been tailored to meet the requirements of dealing with this supplier								
Gearing up to deal with this suplpier requires highly specialized tools and equipment								
Internal consistency: α= 0.75								
Buyer Dependence :	**Source:** Heide (1994)							**Scale:** Interval 1-7 (likert)
If we decided to stop purchasing from this supplier, we could easily replace their volume with purchases from other supplier								
There are many competitive suppliers for these components								
Our production system can be easily adapted to using components from a new supplier								

Dealing with a new supplier would only require a limited redesign and development effort on our part		
Internal consistency: α= 0.79		
Supplier Dependence :	**Source:** Heide (1994)	**Scale:** Interval 1-7 (likert)
If we stopped buying from this supplier, they could easily replace our volume with sales to some other buyer		
It would be relatively easy for this supplier to find another buyer for these components		
Finding new buyers for these components would not have a negative impact on the price this supplier can charge		
If the relationship with our company was terminated, it would not hurt this supplier's operations		
Internal consistency: α= 0.82		
Conflict	**Source:** Mohr, Nevin and Fisher (1996)	**Scale:** Interval 1-7 (likert)
We argue frequently with this manufacturer about business issues		
Our arguments with this manufacturer are very heated		
We disagree with the manufacturer about how we can best achieved our respective goals		
This relationship is marked by a high degree of harmony ®		
Internal consistency: α= 0.86		
Task analyzability	**Source:** Kim *et al.* (1998)	**Scale:** Interval 1-7 (likert)
To what extent is there a clearly know way to do the major types of work you normally encounter		
To what extent is there a clearly know body of knowledge or subject matter that can guide you in doing your work		
To what extent is there an understandable sequence of steps that can be followed in doing your work		
To do your work , to what extent can you actually rely on established procedures and practices		
Internal consistency: α= 0.89		
Task variability	**Source:** Kim *et al.* (1998)	**Scale:** Interval 1-7 (likert)
How many of these task are the same from day-to-day		
To what extent would you say your work is routine		
I do the same task in the same way most of the time		
Basically, I perform repetitive activities in doing my job		
How repetitious are your duties		
Internal consistency: α= 0.89		
IOIS		
Capabilities of the IOISs	**Adapted from:** Hart and Saunders, 1998; Lefebvre *et al.*,2005;	**Scale:** Dichotomic (yes or no)

	Vijayasarathy and Robey, 1997; Wang *et al.*, 2006	
To take note of the price of the [component] desired.		
To take note of the technical specifications of the [component].		
To take note of the informations tied to the delivery of the [component] (e.g., carrier, delivery date).		
To invite the supplier the [supplier] to participate in a call for tender or to submit a price proposal in order to sell you the [component]		
To receive form the [supplier] a bid or a price proposal in order to sell you the [component]		
To negotiate with the [supplier] the selling terms and conditions of the [component] (e.g., price, specifications, delivery date).		
To inform the [supplier] that he gained a call for tenders or that its price proposal has been accepted.		
To pass a purchase order to the [supplier] (including repetitive purchases).		
To receive from the [supplier] a confirmation that he accepts a purchase order.		
To ask the [supplier] the status of a purchase order (e.g., in treatment, stock shortage).		
To inform the [supplier] of a modification concerning a purchase order in process.		
To exchange with the [supplier] information to decide on and/or solve problems tied to a purchase order in stock shortage.		
To receive from the [supplier] a confirmation that a purchase order has been dispatched.		
To inform the [supplier] that some [components] of a purchase order haven't meet the quality requirements.		
To receive from the [supplier] an invoice relative to a purchase order.		
To pay an invoice from the [supplier] relative to a purchase order.		
To exchange with the [supplier] information to justify and plan a return of goods.		
To exchange with the [supplier] information to solve potential problems that may arise after the purchase of [components].		
To know your purchasing history of the [component] at the [supplier].		
To receive from the [supplier] a notice that the price of the [component] is prone to changes.		
To receive information from the [supplier] on parts able to substitute the [component] purchased.		
To exchange with the [supplier] technical information (e.g., technical drawings) to improve the quality of the [component].		
To receive from the [supplier] his production plan of the [component].		
To transmit to the [supplier] your production plan of the product in which (or of the products in which) the [component] is integrated.		
To transmit to the [supplier] your next month sales forecasts of the product in which (or of the products in which) the [component] is integrated (short term).		
To transmit to the [supplier] your next year sales forecasts of the product in which (or of the products in which) the		

[component] is integrated (long term).		
To transmit to the [supplier] the information collected at the different point of sales of the product in which (or of the products in which) the [component] is integrated.		
To transmit to the [supplier] the details of the promotions to come on the product in which (or on the products in which) the component is integrated (e.g., dates, rebates, etc.).		
To exchange with the [supplier] information concerning the delivery plan of the [component].		
To inform the [supplier] of your inventory management policy.		
To access the [component] inventory of the [supplier].		
To allow the [supplier] to access your inventory of the product in which (or of the products in which) the [component] is integrated.		
Internal consistency: n/a		
Volume of use of IOISs	**Adapted from:** Mcgowan and Madey (1998)	**Scale:** Percentage
To take note of the price of the [component] desired.		
To take note of the technical specifications of the [component].		
To take note of the informations tied to the delivery of the [component] (e.g., carrier, delivery date).		
To invite the supplier the [supplier] to participate in a call for tender or to submit a price proposal in order to sell you the [component]		
To receive form the [supplier] a bid or a price proposal in order to sell you the [component]		
To negotiate with the [supplier] the selling terms and conditions of the [component] (e.g., price, specifications, delivery date).		
To inform the [supplier] that he gained a call for tenders or that its price proposal has been accepted.		
To pass a purchase order to the [supplier] (including repetitive purchases).		
To receive from the [supplier] a confirmation that he accepts a purchase order.		
To ask the [supplier] the status of a purchase order (e.g., in treatment, stock shortage).		
To inform the [supplier] of a modification concerning a purchase order in process.		
To exchange with the [supplier] information to decide on and/or solve problems tied to a purchase order in stock shortage.		
To receive from the [supplier] a confirmation that a purchase order has been dispatched.		
To inform the [supplier] that some [components] of a purchase order haven't meet the quality requirements.		
To receive from the [supplier] an invoice relative to a purchase order.		
To pay an invoice from the [supplier] relative to a purchase order.		
To exchange with the [supplier] information to justify and plan a return of goods.		
To exchange with the [supplier] information to solve potential problems that may arise after the purchase of		

[components].
To know your purchasing history of the [component] at the [supplier].
To receive from the [supplier] a notice that the price of the [component] is prone to changes.
To receive information from the [supplier] on parts able to substitute the [component] purchased.
To exchange with the [supplier] technical information (e.g., technical drawings) to improve the quality of the [component].
To receive from the [supplier] his production plan of the [component].
To transmit to the [supplier] your production plan of the product in which (or of the products in which) the [component] is integrated.
To transmit to the [supplier] your next month sales forecasts of the product in which (or of the products in which) the [component] is integrated (short term).
To transmit to the [supplier] your next year sales forecasts of the product in which (or of the products in which) the [component] is integrated (long term).
To transmit to the [supplier] the information collected at the different point of sales of the product in which (or of the products in which) the [component] is integrated.
To transmit to the [supplier] the details of the promotions to come on the product in which (or on the products in which) the component is integrated (e.g., dates, rebates, etc.).
To exchange with the [supplier] information concerning the delivery plan of the [component].
To inform the [supplier] of your inventory management policy.
To access the [component] inventory of the [supplier].
To allow the [supplier] to access your inventory of the product in which (or of the products in which) the [component] is integrated.
Internal consistency: n/a

Internal integration of the IOISs	**Adapted from:** Ramamurthy *et al.* (1999); Truman (2000)	**Scale:** Interval 1-7 (likert)
Specify the extent to which the IOISs used with the supplier are integrated into your firm's following internal systems:		
Procurement systems		
Manufacturing systems (e.g., MRP, MRPII, MES)		
Sales and marketing systems (e.g., CRM)		
Logistics and distribution systems (includes inventory management systems) (e.g., LES)		
Accountancy and financial systems		
Development and product engineering systems (e.g., CAD, CAM, PDM/VPDM)		

Internal consistency: n/a		
Outcomes		
The manufacturer's operational performance	**Source:** Chen and Paulraj (2004)	**Scale:** Interval 1-7 (likert)
Volume flexibility		
Scheduling flexibility		
On-time dilivery		
Delivery reliability/consistency		
Quality		
Cost		
Internal consistency: α= 0.76		
Information quality	**Source:** Bensaou and Venkatram (1995)	**Scale:** Interval 1-7 (likert)
The level of detail of the information exchanged		
The quality of the information exchanged		
The quantity of information exchanged		
The timing of information exchanged		
The utility of information exchanged		
The reliability of information exchanged		
Internal consistency: α= 0.94		
Manufacturer's trust	**Source:** Yllmaz *et al.* (2005)	**Scale:** Interval 1-7 (likert)
This supplier cannot be trusted at times (R)		
This supplier is perfectly honest and truthful		
This supplier can be trusted completely		
This supplier can be counted on to do what is right		
This supplier can be counted on to get the job done right		
This supplier is always faithful		

This supplier is a business partner that I have great confidence in		
This supplier have high integrity		
Internal consistency: α= 0.95		
Manufacturer's satisfaction	**Source:** Bensaou and Venkatram (1995)	**Scale:** Interval 1-7 (likert)
Within the framework of your activities tied to the procurement of the [component], how would you rate your level of satisfaction towards the business relationship established between your firm and the [supplier].		

Table 3: Unidimensionality, reliability and validity thresholds

Statistics	Threshold Guidelines	Source
Unidimensionality		
Normed χ^2	Below 3.0	Gefen *et al.*, 2000
AGFI	Above 0.8 or 0.9	Gefen *et al.*, 2000
GFI	Above 0.9	Segars, Grover, 1993
Bentler Bonett	Above 0.9	Bentler, 1990
CFI	Above 0.9	Bentler, 1990
IFI	Above 0.9	Bentler, Bonett, 1980
RMSEA	Below 0.1	McCloy *et al.*, 1994
Internal consistency		
AVE	Above 0.5	Hair *et al.*, 1998
CROBACH ALPHA	Above 0.7	Nunnally, 1978
Convergent validity		
ITEM LOADINGS	Above 0.707	Hair *et al.*, 1998
R-SQUARE VALUES	Above 0.5	Hair *et al.*, 1998
Discriminant validity		
INTERCORRELATIONS	Below 0.6	Carlson *et al.*, 2000
CHI-SQUARE DIFFERENCE	Significant	McKnight *et al.*, 2002

Table 4: Pilot-test #1: Centralization: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	32.51
AGFI	Above 0.8	0.587
GFI	Above 0.9	0.793
Bentler Bonnet	Above 0.9	0.803
CFI	Above 0.9	0.871
IFI	Above 0.9	0.877
RMSEA	Below 0.1	0.214
AVE	Above 0.5	0.58
Cronbach's Alpha	Above 0.7	0.90

Table 5: Pilot-test #1: Centralization: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Cent1	0.454***	.206
Cent2	0.867****	.752
Cent3	0.916****	.839
Cent4	0.869****	.755
Cent5	0.905****	.820
Cent6	0.593****	.352
Cent7	0.605****	.366

Table 6: Pilot-test #1: Formalization: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	13.41
AGFI	Above 0.8	0.261

GFI	Above 0.9	0.852
Bentler Bonnet	Above 0.9	0.757
CFI	Above 0.9	0.768
IFI	Above 0.9	0.786
RMSEA	Below 0.1	0.444
AVE	Above 0.5	0.519
Cronbach's Alpha	Above 0.7	0.79

Table 7: Pilot-test #1: Formalization: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Form1	0.324**	.105
Form2	0.762****	.581
Form3	0.955****	.913
Form4	0.692****	.479

Table 8: Pilot-test #1: Participation: unidimensionality and internal consitency

Statistics	**Threshold Guidelines**	**Observed Values**
Normed χ^2	Below 3.0	8.731
AGFI	Above 0.8	0.375
GFI	Above 0.9	0.875
Bentler Bonnet	Above 0.9	0.615
CFI	Above 0.9	0.596
IFI	Above 0.9	0.674
RMSEA	Below 0.1	0.341
AVE	Above 0.5	0.53
Cronbach's	Above 0.7	0.48

Alpha		

Table 9: Pilot-test #1: Participation: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Part1	0.512***	.263
Part2	0.279*	.078
Part3	1.000****	1.000
Part4	0.302**	.091

Table 10: Pilot-test #1: Shared paradigm: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	.028
AGFI	Above 0.8	.996
GFI	Above 0.9	.999
Bentler Bonnet	Above 0.9	.999
CFI	Above 0.9	1.00
IFI	Above 0.9	1.046
RMSEA	Below 0.1	.000
AVE	Above 0.5	0.518
Cronbach's Alpha	Above 0.7	0.90

Table 11: Pilot-test #1: Shared paradigm: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Shared_digm1	0.756****	.572

Shared_digm2	0.916****	.839
Shared_digm3	0.381**	.145

Table 12: Pilot-test #1: Information exchange: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	.164
AGFI	Above 0.8	.977
GFI	Above 0.9	.996
Bentler Bonnet	Above 0.9	.992
CFI	Above 0.9	1.000
IFI	Above 0.9	1.043
RMSEA	Below 0.1	.000
AVE	Above 0.5	0.52
Cronbach's Alpha	Above 0.7	0.90

Table 13: Pilot-test #1: Information exchange: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Info_ex1	0.621***	.385
Info_ex2	0.553***	.306
Info_ex3	0.938****	.880

Table 14: Pilot-test #1: Joint actions: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	15.224
AGFI	Above 0.8	0.724
GFI	Above 0.9	0.882
Bentler Bonnet	Above 0.9	0.509
CFI	Above 0.9	0.611
IFI	Above 0.9	0.717
RMSEA	Below 0.1	0.154
AVE	Above 0.5	0.228
Cronbach's Alpha	Above 0.7	0.48

Table 15: Pilot-test #1: Joint actions: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Actions1	0.344*	.199
Actions2	0.369*	.136
Actions3	0.619**	.383
Actions4	0.578**	.335
Actions5	0.615**	.379
Actions6	0.133	.018

Table 16: Pilot-test #1: Monitoring: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	5.889
AGFI	Above 0.8	0.878
GFI	Above 0.9	0.948

Bentler Bonnet	Above 0.9	0.868
CFI	Above 0.9	1
IFI	Above 0.9	1.087
RMSEA	Below 0.1	0
AVE	Above 0.5	0.362
Cronbach's Alpha	Above 0.7	0.75

Table 17: Pilot-test #1: Monitoring: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Monit1	0.594***	.353
Monit2	0.311*	.097
Monit3	0.683****	.467
Monit4	0.512***	.262
Monit5	0.441**	.195
Monit6	0.895****	.802

Table 18: Pilot-test #1: Assistance: unidimensionality and internal consistency

Statistics	**Threshold Guidelines**	**Observed Values**
Normed χ^2	Below 3.0	.057
AGFI	Above 0.8	.992
GFI	Above 0.9	.999
Bentler Bonnet	Above 0.9	1.126
CFI	Above 0.9	1.000
IFI	Above 0.9	1.039
RMSEA	Below 0.1	.000
AVE	Above 0.5	0.569

Cronbach's Alpha	Above 0.7	0.75

Table 19: Pilot-test #1: Assistance: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Assist1	0.526***	.277
Assist2	0.707****	.500
Assist3	0.964****	.930

Table 20: Pilot-test #1: Component market: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	2.997
AGFI	Above 0.8	0.748
GFI	Above 0.9	0.950
Bentler Bonnet	Above 0.9	0.842
CFI	Above 0.9	0.923
IFI	Above 0.9	0.941
RMSEA	Below 0.1	0.131
AVE	Above 0.5	0.22
Cronbach's Alpha	Above 0.7	0.48

Table 21: Pilot-test #1: Component market: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**

Market1	0.26*	.068
Market2	1****	1.000
Market3	0.287*	.082
Market4	0.571****	.326

Table 22: Pilot-test #1: Component complexity: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	1.740
AGFI	Above 0.8	.776
GFI	Above 0.9	.963
Bentler Bonnet	Above 0.9	.976
CFI	Above 0.9	.989
IFI	Above 0.9	.989
RMSEA	Below 0.1	.160
AVE	Above 0.5	0.79
Cronbach's Alpha	Above 0.7	0.92

Table 23: Pilot-test #1: Component complexity: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Complexity1	0.924****	.854
Complexity2	0.791****	.626
Complexity3	0.951****	.904

Table 24: Pilot-test #1: Component criticality: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	4.884

AGFI	Above 0.8	.438
GFI	Above 0.9	.906
Bentler Bonnet	Above 0.9	.944
CFI	Above 0.9	.954
IFI	Above 0.9	.955
RMSEA	Below 0.1	.366
AVE	Above 0.5	0.83
Cronbach's Alpha	Above 0.7	0.92

Table 25: Pilot-test #1: Component criticality: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Criticality1	0.838****	.702
Criticality2	1.000****	1.000
Criticality3	0.891****	.793

Table 26: Pilot-test #1: Dependence firm: unidimensionality and internal consistency

Statistics	**Threshold Guidelines**	**Observed Values**
Normed χ^2	Below 3.0	1.768
AGFI	Above 0.8	0.857
GFI	Above 0.9	0.971
Bentler Bonnet	Above 0.9	0.892
CFI	Above 0.9	1.000
IFI	Above 0.9	1.000
RMSEA	Below 0.1	0
AVE	Above 0.5	0.32
Cronbach's	Above 0.7	0.54

Alpha		

Table 27: Pilot-test #1: Dependence firm: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Man_dep1	0.643***	.413
Man_dep2	0.537***	.288
Man_dep3	0.763***	.583
Man_dep4	0.114	.013

Table 28: Pilot-test #1: Dependence supplier: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	0.923
AGFI	Above 0.8	0.927
GFI	Above 0.9	0.985
Bentler Bonnet	Above 0.9	0.986
CFI	Above 0.9	1.000
IFI	Above 0.9	1,017
RMSEA	Below 0.1	0
AVE	Above 0.5	0.598
Cronbach's Alpha	Above 0.7	0.83

Table 29: Pilot-test #1: Dependence supplier: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Sup_dep1	0.909****	.827

Sup_dep2	0.974****	.949
Sup_dep3	0.469***	.220
Sup_dep4	0.630****	.397

Table 30: Pilot-test #1: Idiosyncratic investment: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	1.154
AGFI	Above 0.8	.836
GFI	Above 0.9	.973
Bentler Bonnet	Above 0.9	.967
CFI	Above 0.9	.995
IFI	Above 0.9	.996
RMSEA	Below 0.1	.073
AVE	Above 0.5	0.634
Cronbach's Alpha	Above 0.7	0.79

Table 31: Pilot-test #1: Idiosyncratic investment: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Idio1	0.631****	.398
Idio2	0.711****	.506
Idio3	1.000****	1.000

Table 32: Pilot-test #1: Conflict: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	3.581
AGFI	Above 0.8	0.727
GFI	Above 0.9	0.945
Bentler Bonnet	Above 0.9	0.982
CFI	Above 0.9	0.985
IFI	Above 0.9	0.985
RMSEA	Below 0.1	0.165
AVE	Above 0.5	0.755
Cronbach's Alpha	Above 0.7	0.90

Table 33: Pilot-test #1: Conflict: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Conflict1	0.712****	.508
Conflict2	0.813****	.661
Conflict3	0.923****	.852
Conflict4	1.000****	1.000

Table 34: Pilot-test #1: Task analyzability: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	18.881
AGFI	Above 0.8	0.161
GFI	Above 0.9	0.832

Bentler Bonnet	Above 0.9	0.794
CFI	Above 0.9	0.803
IFI	Above 0.9	0.812
RMSEA	Below 0.1	0.539
AVE	Above 0.5	0.63
Cronbach's Alpha	Above 0.7	0.90

Table 35: Pilot-test #1: Task analyzability: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Analy1	0.512***	.262
Analy2	0.692****	.478
Analy3	0.967****	.936
Analy4	0.925****	.855

Table 36: Pilot-test #1: Task variability: unidimensionality and internal consistency

Statistics	**Threshold Guidelines**	***Observed Values***
Normed χ^2	Below 3.0	6.942
AGFI	Above 0.8	0.577
GFI	Above 0.9	0.915
Bentler Bonnet	Above 0.9	0.936
CFI	Above 0.9	0.952
IFI	Above 0.9	0.954
RMSEA	Below 0.1	0.292
AVE	Above 0.5	0.74
Cronbach's Alpha	Above 0.7	0.91

Table 37: Pilot-test #1: Task variability: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Varia1	0.770****	.593
Varia2	0.951****	.904
Varia3	0.720****	.518
Varia4	0.9976****	.952

Table 38: Pilot-test #1: Manufacturer's operational performance: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	33.889
AGFI	Above 0.8	20
GFI	Above 0.9	0.026
Bentler Bonnet	Above 0.9	1.694
CFI	Above 0.9	0.527
IFI	Above 0.9	0.682
RMSEA	Below 0.1	0.731
AVE	Above 0.5	0.262
Cronbach's Alpha	Above 0.7	0.67

Table 39: Pilot-test #1: Manufacturer's operational performance: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Ope_perf1	0.491***	.241

Ope_perf2	0.412**	.170
Ope_perf3	0.195	.038
Ope_perf4	0.237	.056
Ope_perf5	-0.031	.001
Ope_perf6	0.946****	.894
Ope_perf7	0.717****	.515
Ope_perf8	0.428**	.183

Table 40: Pilot-test #1: Quality of information exchanged: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	13.369
AGFI	Above 0.8	9
GFI	Above 0.9	0.146
Bentler Bonnet	Above 0.9	0.485
CFI	Above 0.9	0.880
IFI	Above 0.9	0.955
RMSEA	Below 0.1	0.957
AVE	Above 0.5	0.598
Cronbach's Alpha	Above 0.7	0.90

Table 41: Pilot-test #1: Quality of information exchanged: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Qual_info1	0.847****	.717
Qual_info2	0.894****	.799
Qual_info3	0.817****	.668
Qual_info4	0.626****	.392

Qual_info5	0.683****	.466
Qual_info6	0.740****	.546

Table 42: Pilot-test #1: Manufacturer's trust: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	67.662
AGFI	Above 0.8	20
GFI	Above 0.9	0.000
Bentler Bonnet	Above 0.9	3.383
CFI	Above 0.9	0.681
IFI	Above 0.9	0.741
RMSEA	Below 0.1	0.752
AVE	Above 0.5	0.577
Cronbach's Alpha	Above 0.7	0.92

Table 43: Pilot-test #1: Manufacturer's trust: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Trust1	0.533***	.284
Trust2	0.762****	.581
Trust3	0.853****	.728
Trust4	0.555***	.308
Trust5	0.789****	.622
Trust6	0.734****	.539
Trust7	0.938****	.881
Trust8	0.822****	.676

Table 44: Pilot-test #2: Centralization: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	0.781
AGFI	Above 0.8	0.929
GFI	Above 0.9	0.993
Bentler Bonnet	Above 0.9	0.997
CFI	Above 0.9	1
IFI	Above 0.9	1.001
RMSEA	Below 0.1	0
AVE	Above 0.5	0.783
Cronbach's Alpha	Above 0.7	0.949

Table 45: Pilot-test #2: Centralization: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Cent1	n/a	n/a
Cent2	0.891****	0.794
Cent3	0.978****	0.956
Cent4	0.805****	0.649
Cent5	0.858****	0.736
Cent6	n/a	n/a
Cent7	n/a	n/a

Table 46: Pilot-test #2: Formalization: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	.176
AGFI	Above 0.8	.983

GFI	Above 0.9	.998
Bentler Bonnet	Above 0.9	.997
CFI	Above 0.9	1.000
IFI	Above 0.9	1.012
RMSEA	Below 0.1	.000
AVE	Above 0.5	.53
Cronbach's Alpha	Above 0.7	.732

Table 47: Pilot-test #2: Formalization: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Form1	0.262**	.068
Form2	0.843****	.711
Form3	0.601****	.362
Form4	1.000****	1.000

Table 48: Pilot-test #2: Participation: unidimensionality and internal consistency

Statistics	**Threshold Guidelines**	**Observed Values**
Normed χ^2	Below 3.0	0.022
AGFI	Above 0.8	0.998
GFI	Above 0.9	1
Bentler Bonnet	Above 0.9	0.999
CFI	Above 0.9	1
IFI	Above 0.9	1.027
RMSEA	Below 0.1	0

AVE	Above 0.5	0.49
Cronbach's Alpha	Above 0.7	0.723

Table 49: Pilot-test #2: Participation: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Part1	0.771****	.594
Part2	0.497***	.247
Part3	n/a	n/a
Part4	0.795****	.632

Table 50: Pilot-test #2: Shared paradigm: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	5.32
AGFI	Above 0.8	0.63
GFI	Above 0.9	0.938
Bentler Bonnet	Above 0.9	0.86
CFI	Above 0.9	0.877
IFI	Above 0.9	0.884
RMSEA	Below 0.1	0.285
AVE	Above 0.5	0.505
Cronbach's Alpha	Above 0.7	0.72

Table 51: Pilot-test #2: Shared paradigm: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**

Shared_digm1	0.421****	.177
Shared_digm2	0.583***	.940
Shared_digm3	1.000****	1.000

Table 52: Pilot-test #2: Information exchange: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	0.136
AGFI	Above 0.8	0.99
GFI	Above 0.9	0.998
Bentler Bonnet	Above 0.9	0.997
CFI	Above 0.9	1
IFI	Above 0.9	1.022
RMSEA	Below 0.1	0
AVE	Above 0.5	0.535
Cronbach's Alpha	Above 0.7	0.76

Table 53: Pilot-test #2: Information exchange: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Info_ex1	0.705****	.497
Info_ex2	0.824****	.679
Info_ex3	0.755****	.579
Info_ex4	n/a	n/a

Table 54: Pilot-test #2: Joint actions: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	0.222

AGFI	Above 0.8	0.992
GFI	Above 0.9	0.998
Bentler Bonnet	Above 0.9	0.997
CFI	Above 0.9	1
IFI	Above 0.9	1.033
RMSEA	Below 0.1	0
AVE	Above 0.5	0.527
Cronbach's Alpha	Above 0.7	0.793

Table 55: Pilot-test #2: Joint actions: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Actions1	0.839****	.704
Actions2	0.626****	.392
Actions3	0.543****	.294
Actions4	0.967****	.935
Actions5	0.558****	.311

Table 56: Pilot-test #2: Monitoring: unidimensionality and internal consistency

Statistics	**Threshold Guidelines**	**Observed Values**
Normed χ^2	Below 3.0	0.007
AGFI	Above 0.8	0.999
GFI	Above 0.9	1
Bentler Bonnet	Above 0.9	1
CFI	Above 0.9	1
IFI	Above 0.9	1.028
RMSEA	Below 0.1	0

AVE	Above 0.5	0.395
Cronbach's Alpha	Above 0.7	0.69

Table 57: Pilot-test #2: Monitoring: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Monit1	0.571****	.326
Monit2	0..709****	.503
Monit3	0.587****	.344
Monit4	0.627****	.393

Table 58: Pilot-test #2: Assistance: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	1.076
AGFI	Above 0.8	0.942
GFI	Above 0.9	0.992
Bentler Bonnet	Above 0.9	0.986
CFI	Above 0.9	1
IFI	Above 0.9	1.013
RMSEA	Below 0.1	0
AVE	Above 0.5	0.527
Cronbach's Alpha	Above 0.7	0.77

Table 59: Pilot-test #2: Assistance: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**

Assist1	0.562****	.316
Assist2	0.879****	.773
Assist3	0.559****	.313
Assist4	0.906****	.822
Assist5	0.642****	.412

Table 60: Pilot-test #2: Component market: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	1.998
AGFI	Above 0.8	0.858
GFI	Above 0.9	0.976
Bentler Bonnet	Above 0.9	0.982
CFI	Above 0.9	0.991
IFI	Above 0.9	0.991
RMSEA	Below 0.1	0.136
AVE	Above 0.5	0.392
Cronbach's Alpha	Above 0.7	0.626

Table 61: Pilot-test #2: Component market: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Market1	0.383**	.147
Market2	0.748***	.559
Market3	0.802***	.644
Market4	0.467***	.218

Table 62: Pilot-test #2: Component complexity: unidimensionality and internal consistency

Statistics	Threshold	Observed

	Guidelines	Values
Normed χ^2	Below 3.0	0.05
AGFI	Above 0.8	0.996
GFI	Above 0.9	0.999
Bentler Bonnet	Above 0.9	0.999
CFI	Above 0.9	1
IFI	Above 0.9	1.01
RMSEA	Below 0.1	0
AVE	Above 0.5	0.75
Cronbach's Alpha	Above 0.7	0.901

Table 63: Pilot-test #2: Component complexity: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Complexity1	0.913****	.834
Complexity2	0.771****	.594
Complexity3	0.920****	.846

Table 64: Pilot-test #2: Component criticality: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	0.056
AGFI	Above 0.8	0.995
GFI	Above 0.9	0.999
Bentler Bonnet	Above 0.9	0.998
CFI	Above 0.9	1
IFI	Above 0.9	1.04
RMSEA	Below 0.1	0

AVE	Above 0.5	0.674
Cronbach's Alpha	Above 0.7	0.824

Table 65: Pilot-test #2: Component criticality: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Criticality1	0.511****	.261
Criticality2	0.966****	.934
Criticality3	0.910****	.829

Table 66: Pilot-test #2: Dependence firm: unidimensionality and internal consistency

Statistics	**Threshold Guidelines**	**Observed Values**
Normed χ^2	Below 3.0	0.024
AGFI	Above 0.8	0.998
GFI	Above 0.9	1
Bentler Bonnet	Above 0.9	1
CFI	Above 0.9	1.000
IFI	Above 0.9	1..013
RMSEA	Below 0.1	0
AVE	Above 0.5	0.688
Cronbach's Alpha	Above 0.7	0.859

Table 67: Pilot-test #2: Dependence firm: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Man_dep1	0.796****	.633

Man_dep2	n/a	n/a
Man_dep3	0.858****	.736
Man_dep4	0.816****	.666

Table 68: Pilot-test #2: Dependence supplier: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	0.2
AGFI	Above 0.8	0.985
GFI	Above 0.9	0.998
Bentler Bonnet	Above 0.9	0.999
CFI	Above 0.9	1.000
IFI	Above 0.9	1
RMSEA	Below 0.1	0
AVE	Above 0.5	0.82
Cronbach's Alpha	Above 0.7	0.923

Table 69: Pilot-test #2: Dependence supplier: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Sup_dep1	0.977****	0.955
Sup_dep2	0.985****	0.970
Sup_dep3	0.732****	0.535
Sup_dep4	n/a	n/a

Table 70: Pilot-test #2: Idiosyncratic investment: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	1.209

AGFI	Above 0.8	0.935
GFI	Above 0.9	0.991
Bentler Bonnet	Above 0.9	0.991
CFI	Above 0.9	1
IFI	Above 0.9	1.006
RMSEA	Below 0.1	0
AVE	Above 0.5	0.535
Cronbach's Alpha	Above 0.7	0.818

Table 71: Pilot-test #2: Idiosyncratic investment: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Idio1	0.942****	.887
Idio2	0.675****	.455
Idio3	0.489****	.239
Idio4	n/a	n/a
Idio5	0.532****	.283
Idio6	0.901****	.881

Table 72: Pilot-test #2: Conflict: unidimensionality and internal consistency

Statistics	**Threshold Guidelines**	**Observed Values**
Normed χ^2	Below 3.0	0.218
AGFI	Above 0.8	0.99
GFI	Above 0.9	0.998
Bentler Bonnet	Above 0.9	0.998
CFI	Above 0.9	1
IFI	Above 0.9	1.018

RMSEA	Below 0.1	0
AVE	Above 0.5	0.608
Cronbach's Alpha	Above 0.7	0.857

Table 73: Pilot-test #2: Conflict: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Conflict1	0.693****	.480
Conflict2	0.814****	.663
Conflict3	0.714****	.510
Conflict4	0.884****	.782

Table 74: Pilot-test #2: Task analyzability: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	1.332
AGFI	Above 0.8	0.938
GFI	Above 0.9	0.988
Bentler Bonnet	Above 0.9	0.992
CFI	Above 0.9	1
IFI	Above 0.9	1.004
RMSEA	Below 0.1	0
AVE	Above 0.5	0.791
Cronbach's Alpha	Above 0.7	0.901

Table 75: Pilot-test #2: Task analyzability: convergent validity

	Observed Values

Items	Item loadings > 0.707	R^2 > 0.5
Analy1	0.617****	.381
Analy2	0.989****	.979
Analy3	0.841****	.708
Analy4	0.901****	.811

Table 76: Pilot-test #2: Task variability: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	2.755
AGFI	Above 0.8	0.757
GFI	Above 0.9	0.976
Bentler Bonnet	Above 0.9	0.982
CFI	Above 0.9	0.988
IFI	Above 0.9	0.988
RMSEA	Below 0.1	0.18
AVE	Above 0.5	0.654
Cronbach's Alpha	Above 0.7	0.875

Table 77: Pilot-test #2: Task variability: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Varia1	0.642****	.412
Varia2	0.993****	.986
Varia3	0.676****	.456
Varia4	0.874****	.765

Table 78: Pilot-test #2: Manufacturer's operational performance: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	0.007
AGFI	Above 0.8	0.999
GFI	Above 0.9	1
Bentler Bonnet	Above 0.9	1
CFI	Above 0.9	1
IFI	Above 0.9	1.028
RMSEA	Below 0.1	0
AVE	Above 0.5	0.40
Cronbach's Alpha	Above 0.7	0.80

Table 79: Pilot-test #2: Manufacturer's operational performance: convergent validity

	Observed Values	
Items	Item loadings > 0.707	R^2 > 0.5
Ope_perf1	0.330**	.109
Ope_perf2	0.384***	.148
Ope_perf3	0.902****	.813
Ope_perf4	1.000****	1.000
Ope_perf5	0.555****	.308
Ope_perf6	0.273**	.074

Table 80: Pilot-test #2: Quality of information exchanged: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	3.229

AGFI	Above 0.8	0.933
GFI	Above 0.9	0.981
Bentler Bonnet	Above 0.9	0.988
CFI	Above 0.9	1
IFI	Above 0.9	1.01
RMSEA	Below 0.1	0
AVE	Above 0.5	0.668
Cronbach's Alpha	Above 0.7	0.92

Table 81: Pilot-test #2: Quality of information exchanged: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Qual_info1	0.943****	.890
Qual_info2	0.852****	.726
Qual_info3	0.802****	.643
Qual_info4	0.727****	.529
Qual_info5	0.733****	.537
Qual_info6	0.828****	.686

Table 82: Pilot-test #2: Manufacturer's trust: unidimensionality and internal consistency

Statistics	Threshold Guidelines	Observed Values
Normed χ^2	Below 3.0	11.721
AGFI	Above 0.8	0.811
GFI	Above 0.9	0.953
Bentler Bonnet	Above 0.9	0.975
CFI	Above 0.9	0.994
IFI	Above 0.9	0.994

RMSEA	Below 0.1	0.075
AVE	Above 0.5	0.631
Cronbach's Alpha	Above 0.7	0.94

Table 83: Pilot-test #2: Manufacturer's trust: convergent validity

	Observed Values	
Items	**Item loadings > 0.707**	**R^2 > 0.5**
Trust1	0.645****	.417
Trust2	0.755****	.571
Trust3	0.743****	.551
Trust4	0.696****	.484
Trust5	0.822****	.676
Trust6	0.830****	.689
Trust7	0.816****	.666
Trust8	0.999****	.997

Table 84: Pilot-test #2: Discriminant validity: constrained analysis results

	UNCONSTRAINED (DF) CHI-SQUARED	CONSTRAINED (DF) CHI-SQUARED	DELTA CHI-SQUARED
Component Complexity vs			
Component complexity	16.627 (10)	108.113 (11)	91.486****
Component market	15.357 (12)	33.795 (13)	18.438****
Dependence firm	8.176 (8)	77.872 (9)	69.696****
Dependence supplier	9.744 (8)	177.941 (9)	168.197****
Idiosyncratic investments	17.832 (16)	119.772 (17)	101.94****
Joint actions	20.150 (17)	80.046 (18)	59.896****
Manufacturer's trust	38.405 (32)	144.886 (33)	106.481****
Information exchange	28.050 (8)	58.774 (9)	30.724****
Assistance	16.741 (16)	75.138 (17)	58.397****
Conflict	13.211 (13)	122.815 (14)	109.604****
Formalization	43.827 (13)	84.596 (14)	40.769****
Monitoring	7.744 (8)	31.299 (9)	23.555****
Centralization	5.297 (12)	115.064 (13)	109.767****
Participation	4.891 (8)	41.508 (9)	36.617****
Shared paradigm	6.397 (8)	33.735 (9)	27.338****
Analyzability	34.915 (13)	145.081 (14)	110.166****
Variability	14.655 (12)	101.462 (13)	86.807****
Manufacturer's operational performance	19.486 (24)	127.486 (25)	108****
Quality of information exchanged	16.974 (23)	124.947 (24)	107.973****
Component Criticality vs			
Component market	7.249 (12)	23.465 (13)	16.216****

Dependence firm	2.658 (8)	73.848 (9)	71.19****
Dependence supplier	7.825 (8)	188.236 (9)	180.411****
Idiosyncratic investments	10.798 (16)	102.632 (17)	91.834****
Joint actions	10.274 (17)	70.893 (18)	60.619****
Manufacturer's trust	39.152 (32)	130.109 (33)	90.957****
Information exchange	5.661 (8)	42.280 (9)	36.619****
Assistance	10.339 (16)	68.496 (17)	58.157****
Conflict	2.493 (13)	94.467 (14)	91.974****
Formalization	39.066 (13)	76.994 (14)	37.928****
Monitoring	15.239 (8)	40.070 (9)	24.831****
Centralization	7.298 (12)	150.697 (13)	143.399****
Participation	5.600 (8)	41.876 (9)	36.276****
Shared paradigm	10.475 (8)	44.588 (9)	34.113****
Analyzability	23.775 (13)	118.480 (14)	94.705****
Variability	19.392 (12)	125.566 (13)	106.174****
Manufacturer's operational performance	30.130 (24)	123.717 (25)	93.587****
Quality of information exchanged	12.751 (23)	105.682 (24)	92.931****
Component Market vs			
Dependence firm	11.005 (12)	29.982 (13)	18.977****
Dependence supplier	13.024 (12)	33.152 (13)	20.128****
Idiosyncratic investments	15.463 (22)	34.760 (23)	19.297****
Joint actions	24.808 (23)	41.413 (24)	16.605****
Manufacturer's trust	45.702 (41)	63.697 (42)	17.995****
Information exchange	6.489 (12)	23.517 (13)	17.028****
Assistance	28.048 (22)	47.797 (23)	19.749****
Conflict	22.969 (18)	41.197 (19)	18.228****
Formalization	47.276 (18)	59.945 (19)	12.669****
Monitoring	10.299 (12)	30.624 (13)	20.325****

Centralization	12.513 (17)	26.640 (18)	14.127****
Participation	10.360 (12)	27.447 (13)	17.087****
Shared paradigm	6.292 (12)	22.396 (13)	16.104****
Analyzability	15.765 (18)	31.204 (19)	15.439****
Variability	14.115 (17)	33.490 (18)	19.375****
Manufacturer's operational performance	41.740 (31)	61.773 (32)	20.033****
Quality of information exchanged	26.496 (30)	47.058 (31)	20.562****
Dependence Firm vs			
Dependence supplier	10.486 (8)	83.482 (9)	72.996****
Idiosyncratic investments	20.401 (16)	89.786 (17)	69.385****
Joint actions	22.682 (17)	73.650 (18)	50.968****
Manufacturer's trust	41.796 (32)	116.630 (33)	74.834****
Information exchange	9.223 (8)	46.203 (9)	36.98****
Assistance	16.055 (16)	66.561 (17)	50.506****
Conflict	9.662 (13)	81.866 (14)	72.204****
Formalization	48.917 (13)	84.811 (14)	35.894****
Monitoring	5.437 (8)	24.888 (9)	19.451****
Centralization	14.524 (12)	89.298 (13)	74.774****
Participation	7.925 (8)	42.104 (9)	34.179****
Shared paradigm	3.732 (8)	35.340 (9)	31.608****
Analyzability	9.437 (13)	84.890 (14)	75.453****
Variability	6.290 (12)	77.794 (13)	71.504****
Manufacturer's operational performance	32.537 (24)	108.235 (25)	75.698****
Quality of information exchanged	29.813 (23)	104.949 (24)	75.136****
Dependence Supplier vs			
Idiosyncratic investments	15.456 (16)	192.577 (17)	177.121****
Joint actions	25.839 (17)	57.185 (18)	31.346****

Manufacturer's trust	59.970 (32)	238.806 (33)	178.836****
Information exchange	10.373 (8)	43.218 (9)	32.845****
Assistance	15.534 (16)	195.415 (17)	179.881****
Conflict	17.467 (13)	199.035 (14)	181.568****
Formalization	41.677 (13)	71.945 (14)	30.268****
Monitoring	12.739 (8)	34.958 (9)	22.219****
Centralization	15.411 (12)	181.133 (13)	165.722****
Participation	3.764 (8)	39.583 (9)	35.819****
Shared paradigm	6.653 (8)	43.349 (9)	36.696****
Analyzability	40.146 (13)	221.462 (14)	181.316****
Variability	22.717 (12)	190.264 (13)	167.547****
Manufacturer's operational performance	28.697 (24)	207.715 (25)	179.018****
Quality of information exchanged	13.217 (23)	191.464 (24)	178.247****
Idiosyncratic investments vs			
Joint actions	36.684 (29)	74.749 (30)	38.065****
Manufacturer's trust	59.220 (50)	160.584 (51)	101.364****
Information exchange	17.664 (16)	52.267 (17)	34.603****
Assistance	21.953 (29)	78.275 (29)	56.322****
Conflict	26.113 (23)	128.689 (24)	102.576****
Formalization	63.420 (23)	96.482 (24)	33.062****
Monitoring	22.520 (16)	37.245 (17)	14.725****
Centralization	26.909 (22)	170.908 (23)	143.999****
Participation	12.744 (16)	47.862 (17)	35.118****
Shared paradigm	26.252 (16)	63.840 (17)	37.588****
Analyzability	19.797 (23)	125.797 (24)	106****
Variability	21.028 (22)	121.193 (23)	100.165****
Manufacturer's operational performance	32.980 (38)	136.117 (39)	103.137****
Quality of information exchanged	32.855 (37)	132.224 (38)	99.369****

Joint Actions vs			
Manufacturer's trust	53.760 (51)	113.387 (52)	59.627****
Information exchange	18.110 (17)	45.708 (18)	27.598****
Assistance	34.898 (29)	86.329 (30)	51.431****
Conflict	27.158 (24)	89.090 (25)	61.932****
Formalization	56.026 (24)	88.059 (25)	32.033****
Monitoring	16.561 (17)	39.999 (18)	23.438****
Centralization	21.711 (23)	75.367 (24)	53.656****
Participation	14.898 (17)	51.173 (18)	36.275****
Shared paradigm	20.642 (17)	58.425 (18)	37.783****
Analyzability	23.464 (24)	83.834 (25)	60.37****
Variability	21.721 (23)	79.004 (24)	57.283****
Manufacturer's operational performance	49.187 (39)	108.570(40)	59.383****
Quality of information exchanged	32.386 (38)	92.008 (39)	59.622****
Manufacturer's trust vs			
Information exchange	35.380 (32)	74.580 (33)	39.2****
Assistance	90.369 (50)	147.710 (51)	57.341****
Conflict	90.074 (42)	167.385 (43)	77.311****
Formalization	65.152 (42)	105.799 (43)	40.647****
Monitoring	71.241 (32)	91.425 (33)	20.184****
Centralization	41.480 (41)	181.722 (42)	140.242****
Participation	39.373 (32)	73.409 (33)	34.036****
Shared paradigm	60.236 (32)	84.751 (33)	24.515****
Analyzability	37.992 (42)	210.460 (43)	172.468****
Variability	34.193 (41)	141.130 (42)	106.937****
Manufacturer's operational performance	108.644 (63)	188.778 (64)	80.134****
Quality of information exchanged	122.144 (62)	155.237 (63)	33.093****

Information Exchange vs			
Assistance	20.301 (16)	55.392 (17)	35.091****
Conflict	14.447 (13)	52.739 (14)	38.292****
Formalization	40.261 (13)	76.825 (14)	36.564****
Monitoring	11.467 (8)	32.771 (9)	21.304****
Centralization	7.402 (12)	47.154 (13)	39.752****
Participation	7.955 (8)	36.028 (9)	28.073****
Shared paradigm	11.101 (8)	48.314 (9)	37.213****
Analyzability	15.553 (13)	54.203 (14)	38.65****
Variability	22.446 (12)	55.785 (13)	33.339****
Manufacturer's operational performance	32.592 (24)	69.283 (25)	36.691****
Quality of information exchanged	14.433 (23)	49.882 (24)	35.449****
Assitance vs			
Conflict	35.305 (23)	93.307 (24)	58.002****
Formalization	47.265 (24)	87.477 (24)	40.212****
Monitoring	17.144 (16)	40.615 (17)	23.471****
Centralization	25.016 (22)	81.722 (23)	56.706****
Participation	21.413 (16)	49.740 (17)	28.327****
Shared paradigm	20.912 (16)	49.578 (17)	28.666****
Analyzability	16.056 (22)	26.802 (23)	10.746****
Variability	16.056 (22)	75.959 (23)	59.903****
Manufacturer's operational performance	57.945 (38)	143.195 (39)	85.25****
Quality of information exchanged	29.077 (37)	85.119 (38)	56.042****
Conflict vs			
Formalization	52.507 (19)	90.376 (20)	37.869****
Monitoring	15.155 (13)	39.596 (14)	24.441****
Centralization	21.021 (18)	163.529 (19)	142.508****

Participation	10.411 (13)	45.788 (14)	35.377****
Shared paradigm	17.327 (13)	42.984 (14)	25.657****
Analyzability	12.428 (19)	110.555 (20)	98.127****
Variability	26.601 (18)	133.307 (19)	106.706****
Manufacturer's operational performance	33.258 (32)	128.509 (33)	95.251****
Quality of information exchanged	29.824 (31)	122.897 (32)	93.073****
Formalization vs			
Monitoring	39.885 (13)	64.127 (14)	24.242****
Centralization	41.436 (18)	70.986 (19)	29.55****
Participation	33.968 (13)	66.198 (14)	32.23****
Shared paradigm	41.275 (13)	77.934 (14)	36.659****
Analyzability	72.576 (19)	102.630 (20)	30.054****
Variability	51.269 (18)	89.167 (19)	37.898****
Manufacturer's operational performance	52.053 (32)	88.076 (33)	36.023****
Quality of information exchanged	52.152 (31)	92.885 (32)	40.733****
Monitoring vs			
Centralization	5.859 (12)	29.049 (13)	23.19****
Participation	7.006 (8)	41.697 (9)	34.691****
Shared paradigm	10.905 (8)	33.661 (9)	22.756****
Analyzability	30.462 (13)	53.078 (14)	22.616****
Variability	28.449 (12)	52.122 (13)	23.673****
Manufacturer's operational performance	40.709 (24)	61.704 (25)	20.995****
Quality of information exchanged	23.298 (23)	39.143 (24)	15.845****
Centralization vs			
Participation	11.119 (12)	46.497 (13)	35.378****

Shared paradigm	11.110 (12)	48.456 (13)	37.346****
Analyzability	26.678 (18)	165.889 (19)	139.211****
Variability	17.877 (17)	124.959 (18)	107.082****
Manufacturer's operational performance	25.939 (31)	167.767 (32)	141.828****
Quality of information exchanged	27.876 (30)	170.639 (31)	142.763****
Participation vs			
Shared paradigm	7.146 (8)	29.519 (9)	22.373****
Analyzability	7.190 (13)	39.032 (14)	31.842****
Variability	10.104 (12)	46.032 (13)	35.928****
Manufacturer's operational performance	21.321 (24)	55.735 (25)	34.414****
Quality of information exchanged	31.335 (23)	62.614 (24)	31.279****
Shared paradigm vs			
Analyzability	13.487 (13)	48.146 (14)	34.659****
Variability	10.447 (12)	47.875 (13)	37.428****
Manufacturer's operational performance	45.514 (24)	77.898 (25)	32.384****
Quality of information exchanged	13.806 (23)	35.228 (24)	21.422****
Analyzability vs			
Variability	27.573 (18)	131.826 (19)	104.253****
Manufacturer's operational performance	32.695 (32)	149.652 (33)	116.957****
Quality of information exchanged	15.953 (31)	187.192 (32)	171.239****
Variability vs			
Manufacturer's operational performance	31.757 (31)	129.799 (32)	98.042****

Quality of information exchanged	46.760 (30)	148.727 (31)	101.967****
Manufacturer's operational performance vs			
Quality of information exchanged	70.738 (48)	136.371 (49)	65.633****

Table 85: Pilot-test #2: Discrimninant validity : correlation matrix

	Manufacturer's operational performance	Quality of information exchanged	Manufacturer's satisfaction	Component complexity	Component criticality	Component market	Manufacture dependenc
Manufacturer's operational performance	1						
Quality of information exchanged	0.495****	1					
Manufacturer's satisfaction	0.602****	0.78****	1				
Component complexity	-0.238*	-0.165	-0.32**	1			
Component criticality	-0.119	-0.126	-0.084	0.184	1		
Component market	-0.022	0.107	-0.049	0.32*	-0.038	1	
Manufacturer's dependence	0.204	0.019	0.131	-0.188	-0.179	-0.303	
Supplier's dependence	0.042	0.205	0.228	-0.323**	-0.115	-0.27	0.2
Idiosyncratic investment	-0.19	-0.201	-0.416***	0.368***	0.138	0.118	-0.24
Joint actions	0.107	-0.085	-0.159	0.099	-0.102	0.343*	-0.25
Manufacturer's trust	0.555****	0.735****	0.7****	-0.182	-0.181	-0.088	0.0
Information exchange	-0.105	-0.227	-0.31**	0.123	0.188	-0.222	-0.0
Assistance	0.481***	0.198	0.237*	0.037	-0.025	-0.132	0.1
Conflict	-0.193	-0.193	-0.382***	0.099	0.2	0.087	-0.
Formalization	0.186	-0.042	-0.073	0.05	0.093	0.226	-0.25
Control	0.069	0.221	0.135	0.036	0.004	0.074	0.1
Centralization	0.042	0.001	0.04	0.039	-0.03	-0.106	-0.1
Participation	0.206	0.277**	0.155	-0.008	-0.113	-0.257	-0.1
Shared paradigm	-0.513****	-0.458****	-0.58****	0.389***	0.208	0.072	-0.27
Task analyzability	-0.041	-0.111	-0.06	-0.047	-0.09	-0.157	-0.1
Task variability	0.324**	0.034	0.147	-0.428****	-0.163	0.089	0.1

* $p < .10$, ** $p < .05$, *** $p < .01$, **** $p < .001$

	Idiosyncratic investments	Joint actions	Manufacturer's trust	Information excahnge	Assistance	Conflict	Formalization
Manufacturer's operational performance							
Quality of information exchanged							
Manufacturer's satisfaction							
Component complexity							
Component criticality							
Component market							
Manufacturer's dependence							
Supplier's dependence							
Idiosyncratic investment	1						
Joint actions	0.352***	1					
Manufacturer's trust	-0.088	-0.143	1				
Information exchange	0.336**	0.383***	-0.132	1			
Assistance	0.032	0.317**	0.251*	0.306**	1		
Conflict	0.174	0.063	-0.471****	0.152	-0.048	1	
Formalization	0.136	0.371***	-0.081	0.095	0.158	0.171	1
Control	-0.184	0.072	0.188	-0.1	0.121	0.006	0.121
Centralization	0.117	0.368***	-0.072	0.046	0.17	0.111	0.398***
Participation	0.257*	0.17	0.248*	0.235*	0.38***	0.114	0.143
Shared paradigm	0.201	-0.046	-0.54****	-0.007	-0.387***	0.393***	0.017
Task analyzability	0.129	0.176	-0.173	0.166	0.09	0.055	0.418****
Task variability	-0.165	-0.041	0.059	-0.251*	0.047	-0.011	0.199

* $p < .10$, ** $p < .05$, *** $p < .01$, **** $p < .001$

	Centralization	Participation	Shared paradigm	Task analyzability	Task variability
Manufacturer's operational performance					
Quality of information exchanged					
Manufacturer's satisfaction					
Component complexity					
Component criticality					
Component market					
Manufacturer's dependence					
Supplier's dependence					
Idiosyncratic investment					
Joint actions					
Manufacturer's trust					
Information exchange					
Assistance					
Conflict					
Formalization					
Control					
Centralization	1				
Participation	0.188	1			
Shared paradigm	-0.085	-0.359	1		
Task analyzability	0.13	0.278**	0.177	1	
Task variability	0.014	-0.049	-0.198	0.142	1

* p < .10, ** p < .05, *** p < .01, **** p < .001

Table 86: MRA where the manufacturer's operational performance is the criterion variable, joint actions a potential predictive variable and capabilities of the IOISs, volume of use of IOISs and internal integration of the IOISs are potential moderating variables

Variables	Equation 1	Equation 2	Equation 3
	Standardized ß	Standardized ß	Standardized ß
Joint actions	0.590	0.075	-0.618
Capabilities of the IOISs		-0.050	-0.499*
Interaction			0.965*
	Equation 1	**Equation 2**	**Equation 3**
	Standardized ß [1]	Standardized ß	Standardized ß
Joint actions	0.590	0.062	-0.316
Volume of use of IOISs		-0.012	-0.282
Interaction			0.545
	Equation 1	**Equation 2**	**Equation 3**
	Standardized ß [1]	Standardized ß	Standardized ß
Joint actions	0.590	-0.269	-1.279***
Internal integration of the IOISs		0.272	-0.677**
Interaction			1.572***

* p < .10, ** p < .05, *** p < .01, **** p < .001

Table 87 : MRA where Manufacturer's operational performance is the criterion variable, idiosyncratic investments a potential predictive variable and capabilities of the IOISs, volume of use of IOISs and internal integration of the IOISs are potential moderating variables

Variables	Equation 1	Equation 2	Equation 3
	Standardized ß	Standardized ß	Standardized ß
Idiosyncratic investments	-0.136	-0.138	-1.164****
Capabilities of the IOISs		0.007	-0.537***
Interaction			1.351****
	Equation 1	**Equation 2**	**Equation 3**
	Standardized ß	Standardized ß	Standardized ß
Idiosyncratic investments	-0.136	-0.144	-1.009****
Volume of use of IOISs		0.036	-0.451***
Interaction			1.151****

	Equation 1	Equation 2	Equation 3
	Standardized ß	Standardized ß	Standardized ß
Idiosyncratic investments	-0.136	0.107	-0.099
Internal integration of the IOISs		0.126	-0.032
Interaction			0.313

* p < .10, ** p < .05, *** p < .01, **** p < .001

Table 88: Correlation between the second model's independent variables

	Joint actions	Idiosyncratic investments	Capabilities of the IOISs	Volume of use of IOISs	Internal integration of the IOISs
Joint actions	1				
Idiosyncratic investments	,352***	1			
Capabilities of the IOISs	,360***	,261*	1		
Volume of use of IOISs	,348***	,234*	,936****	1	
Internal integration of the IOISs	,056	,312*	,201	,044	1

* p < .10, ** p < .05, *** p < .01, **** p < .001

FIGURES

Figure 1 : Venkatraman's classificatory framework for mapping the six perspectives of fit.

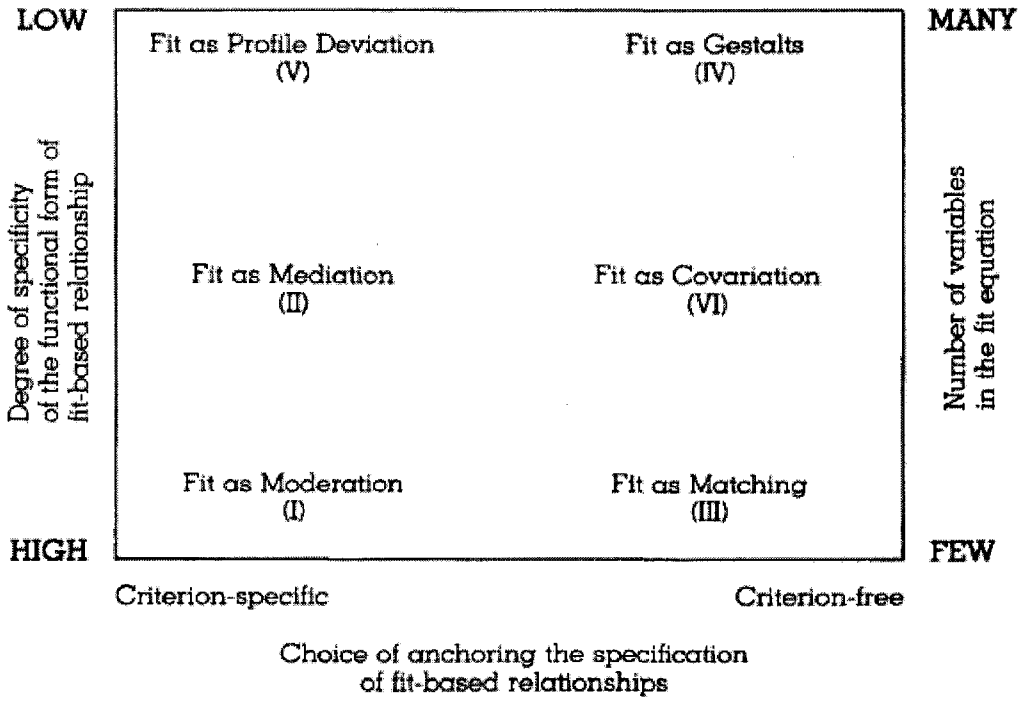


Figure 2 : Bensaou and Venkatraman's six steps analytical approach

Step Number	Description
1	Conceptual model of interorganizational relationships based on an information processing perspective—reflecting the fit between information processing needs and information processing capabilities
2	Derivation of 19 variables reflecting the six dimensions of the conceptual model
3	Identification of the configurations reflecting the information processing needs; the "best" solution is selected based on the *Calinski and Harabasz VRC criterion*
4	Identification of the configurations reflecting the information processing capabilities; the "best" solution is selected based on the *Calinski and Harabasz VRC criterion*
5	Assessment of descriptive validity of the configurations
6	Assessment of predictive validity of the configurations

Figure 3: Robicheaux and Coleman's model

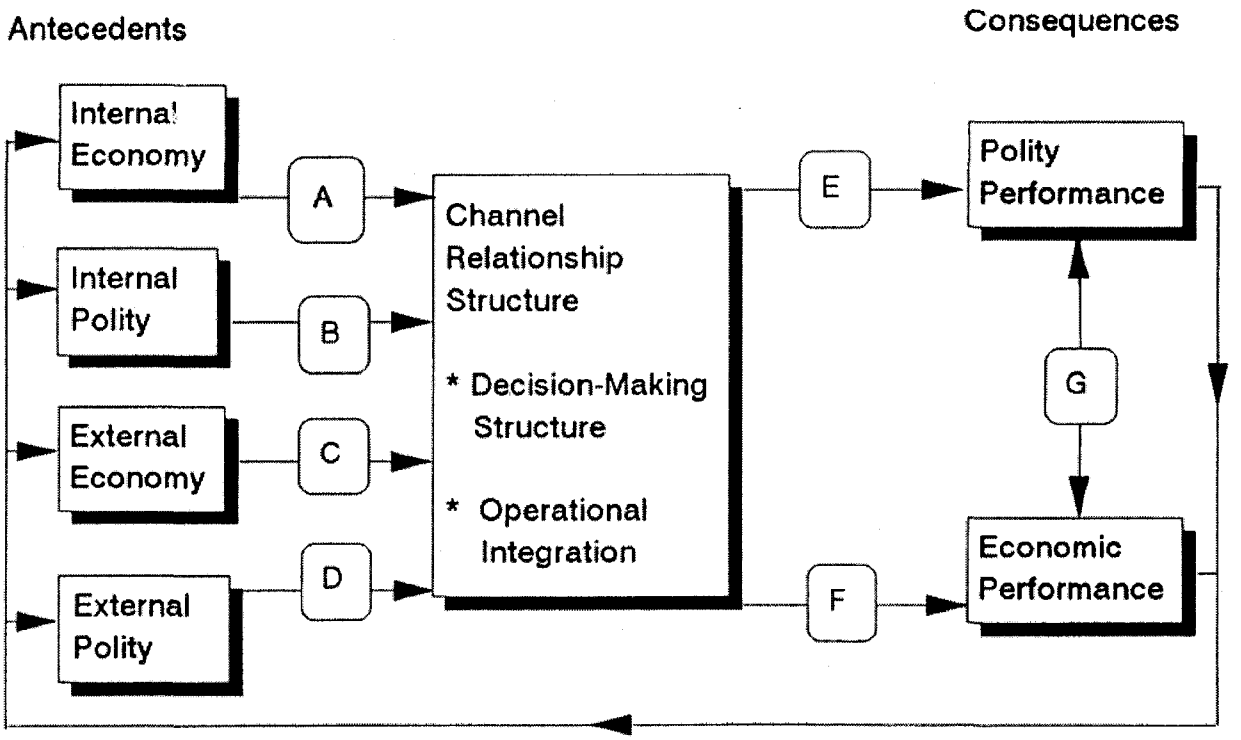


Figure 4: Robicheaux and Coleman's relational axes

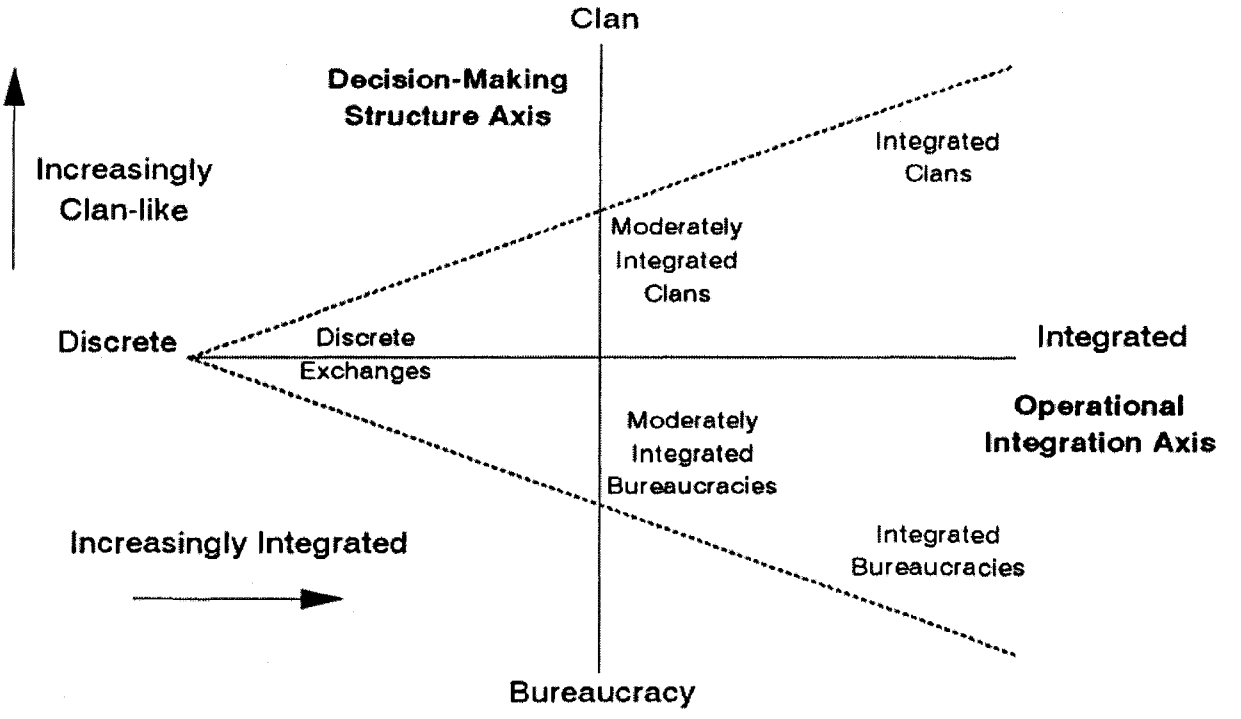


Figure 5: Translation of intraorganizational dimensions into interorganizational dimensions

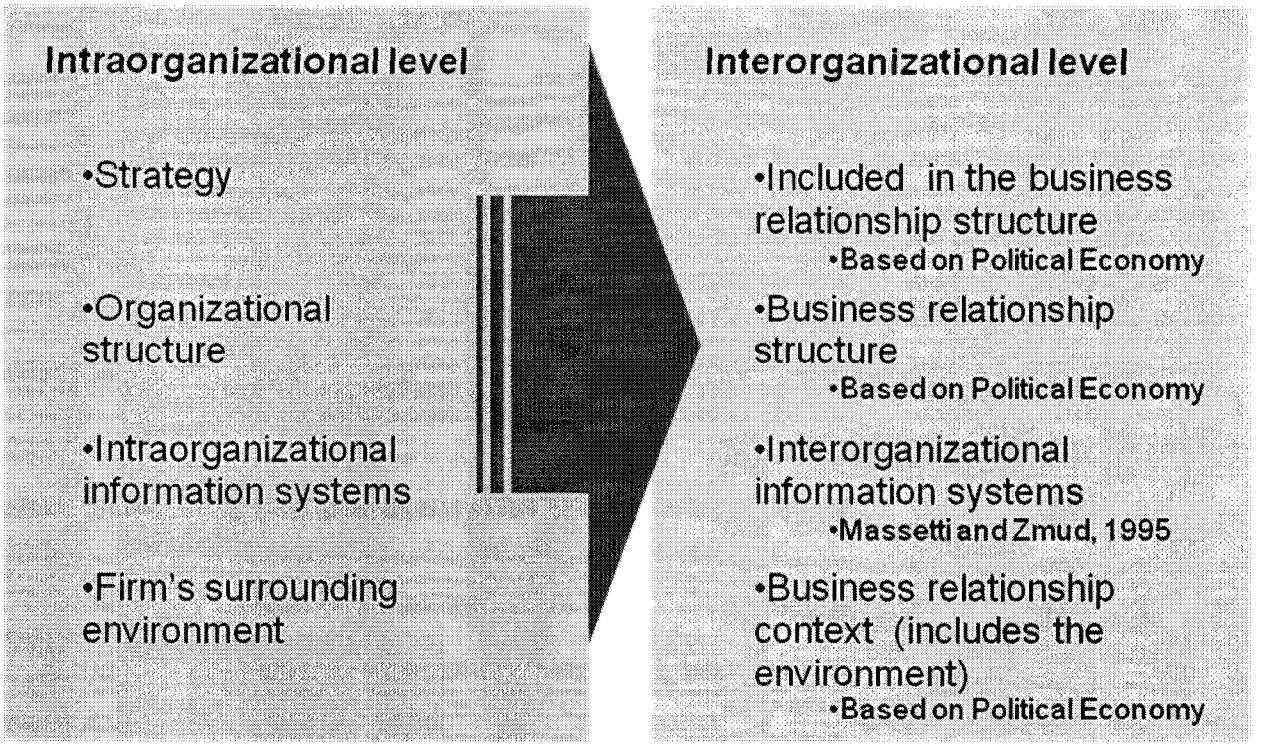


Figure 6: Model 1

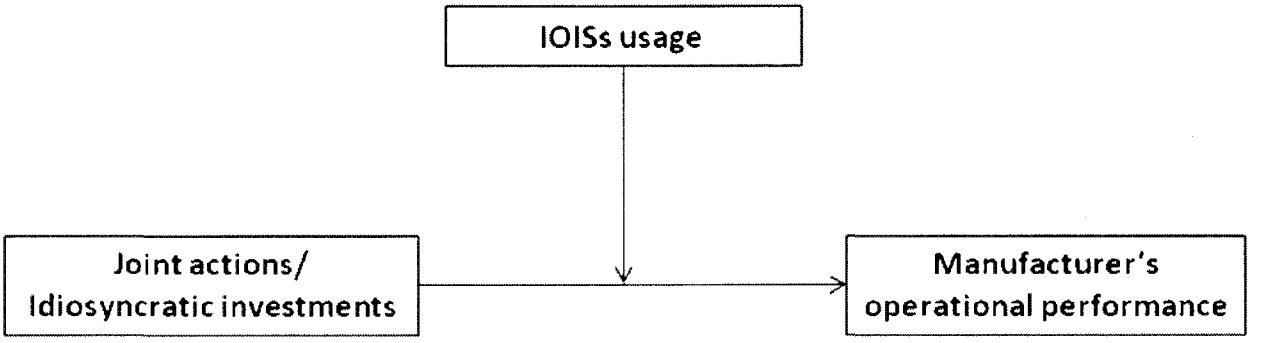
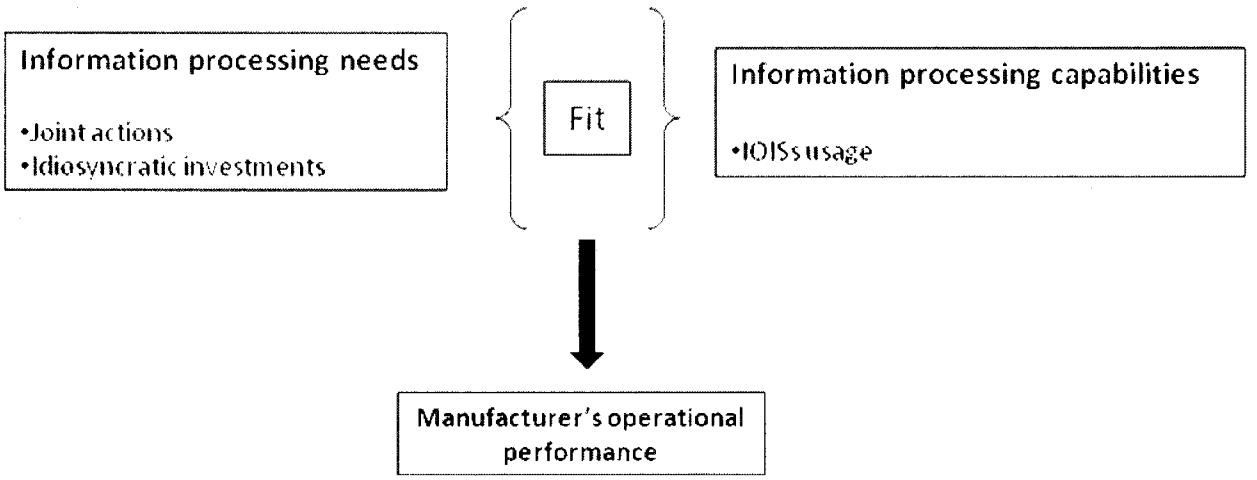


Figure 7: Model 2



APPENDICES

Appendix A: Pilot tests consent form

Titre du projet
L'influence des systèmes d'information interorganisationnels (SIIOs) sur la performance des relations interorganisationnelles

Responsables du projet
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Objectifs et buts du projet
Le but de l'étude est d'aider les gestionnaires des équipementiers québécois à identifier la stratégie de gestion des Systèmes d'Information Interorganisationnelles (SIIOs) qui correspond le mieux à leur situation. Cela permettra aux gestionnaires de mieux planifier, implanter et utiliser les SIIOs et pourront ainsi maximiser la performance qui découle de leurs relations avec leurs partenaires respectifs.

Raison et nature de ma participation
Il est entendu que ma participation sera requise une fois pour une période d'environ 60 minutes. Le questionnaire sera administré lors d'une entrevue face-à-face structurée. Ce questionnaire portera sur la relation d'affaire entre votre entreprise et le fournisseur d'une composante en particulier. Quatre thèmes seront abordés dans ce questionnaire: la structure de votre relation d'affaire, l'environnement global qui entoure cette relation, votre utilisation des SIIOs afin de soutenir cette relation et les bénéfices découlant de votre partenariat. Si j'autorise les responsables à utiliser mes réponses à des fins scientifiques, je ne serai pas contacté(e) par la suite ni sollicité(e) d'aucune manière.

Avantages pouvant découler de ma participation
Ma participation à ce projet de recherche ne m'apportera aucun avantage direct. Ma participation permettra à Philippe Marchildon de recueillir les données nécessaires à la poursuite de son mémoire de maîtrise. En ce sens, ma participation pourra indirectement contribuer à l'avancement de ses travaux de recherche et éventuellement améliorer nos connaissances concernant l'utilisation des systèmes d'information.

Inconvénients et risques pouvant découler de ma participation
J'aurai à donner de mon temps une fois pour répondre au questionnaire qui me sera soumis.
Pour l'ensemble des thèmes abordés dans le questionnaire, et notamment pour ce qui a trait aux questions à caractères plus sensible (chiffre d'affaire, nombre d'employé, niveau de satisfaction), j'aurai toujours la possibilité de refuser de donner une réponse aux questions qui me seront posées, sans avoir à donner de raisons ou de justifications.

Droit de retrait de participation sans préjudice
Il est entendu que ma participation au projet de recherche décrit ci-dessus est tout à fait volontaire et que je reste, à tout moment, libre de mettre fin à ma participation sans avoir à motiver ma décision, ni à subir de préjudice de quelque nature que ce soit.

Advenant que je me retire de l'étude, je demande que les documents audiovisuels ou écrits qui me concernent soient détruits : Oui Non

Confidentialité des données
Les données recueillies seront conservées, sous clé, pour une période n'excédant pas 5 ans. Après cette période, les données seront détruites. Aucun renseignement permettant d'identifier les personnes qui ont participé à l'étude n'apparaîtra dans aucun rapport.

Résultats de la recherche et publication
L'information recueillie pourra être utilisée pour des fins de communication scientifique. Dans cette hypothèse, rien ne permettra d'identifier les personnes ayant participé à la recherche.

Identification du président du Comité d'éthique de la recherche de la Faculté des Lettres et Sciences Humaines
Pour tout problème d'éthique concernant les conditions dans lesquelles se déroule votre participation à ce projet, vous pouvez en discuter avec la responsable du projet ou expliquer vos préoccupations à Madame Dominique Lorrain, Présidente du Comité d'Éthique de la Recherche Lettres et Sciences Humaines, en communiquant par l'intermédiaire de son secrétariat en composant le numéro suivant : 1-819-821-8000, poste 62644, ou par courriel : Emmanuella.Thibault@USherbrooke.ca.

Consentement libre et éclairé

Je _____, déclare avoir lu le présent formulaire. Je comprends la nature et le motif de ma participation au projet.
Par la présente, j'accepte de participer librement au projet.

_____
Signature de la Participante ou du Participant au projet.

Déclaration du responsable
Je, Philippe Marchildon, certifie avoir expliqué à la participante ou au participant intéressé(e) les termes du présent formulaire. Je certifie avoir répondu aux questions posées à cet égard et avoir clairement indiqué à la personne qu'elle demeure, à tout moment, libre de mettre un terme à sa participation au projet de recherche décrit précédemment. Je m'engage à garantir le respect des objectifs de l'étude et à respecter la confidentialité.

_____
Signature du responsable du projet : Philippe Marchildon

Fait à_____, le _____ 2008

Appendix B: Ethics' certificate

Appendix C: Pilot test # 1: Survey instrument

UNIVERSITÉ DE SHERBROOKE

L'INFLUENCE DE L'UTILISATION DES SYSTÈMES D'INFORMATION INTERORGANISATIONNELS SUR LA PERFORMANCE DES RELATIONS INTER-ORGANISATIONNELLES : LE CAS DES ENTREPRISES MANUFACTURIÈRES QUÉBÉCOISES

La présente étude est réalisée dans le cadre du mémoire de maîtrise de Philippe Marchildon, étudiant à la M.Sc. en Gestion du commerce électronique à l'Université de Sherbrooke. Cette recherche est conduite sous la direction de Pierre Hadaya, professeur au département de management et technologie de l'Université du Québec à Montréal.

Le principal objectif de cette étude est de comprendre comment l'utilisation des systèmes d'information interorganisationnels (SIIOs) peut influencer la performance des relations inter-organisationnelles des entreprises manufacturières québécoises.

Avant de remplir le questionnaire ci-joint, nous vous prions de prendre en note les informations suivantes :

1. Les informations collectées se rapportent à l'approvisionnement d'**une composante** importante qui s'intègre dans la fabrication d'un produit final (ou de plusieurs produits finaux) de votre organisation et qui est achetée chez **un de vos fournisseurs externes**.

2. S.V.P., inscrivez, à l'intérieur du tableau qui suit, le nom de la [composante] choisie, une description de la dite [composante] et le nom du produit final à l'intérieur duquel (ou des produits finaux à l'intérieur desquels) elle sera utilisée :

Nom de la composante	Description de la composante	Nom du produit final (des produits finaux)

3. Spécifiez si votre entreprise achète un volume très important ou modérément important de cette [composante] auprès du [fournisseur] **(veuillez cocher la case appropriée)** :

Volume très important
Volume modérément important

4. Spécifiez si la relation d'affaires entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante] est une relation bien établie ou relativement nouvelle **(veuillez cocher la case appropriée)**:

Bien établie
Relativement nouvelle

5. Notre étude ne cherche pas à décrire chacune des entreprises interrogées de manière individuelle mais vise plutôt à identifier les tendances qui se dessinent à l'intérieur d'un échantillon d'entreprises canadiennes. De plus, soyez assuré que toutes les données que vous nous fournirez dans le cadre de cette recherche seront traitées de **manières confidentielles**.

6. Veuillez, S.V.P., prendre le temps de bien répondre à l'ensemble du questionnaire. Au besoin, nous vous invitons à consulter l'annexe ci-joint comprenant une définition de certains termes techniques listés dans le questionnaire.

7. Compléter l'ensemble du questionnaire, comprenant 5 sections sur 17 pages, requiert de 30 à 45 minutes de votre temps.

Pour toutes questions ou informations complémentaires, veuillez vous adresser à :

Philippe Marchildon
Courriel : Philippe.marchildon@usherbrooke.ca

Pierre Hadaya
Courriel : hadaya.pierre@uqam.ca

Merci pour votre collaboration

Section 1 : Vous, votre entreprise, le [fournisseur], la [composante] et le couple [composante]-[fournisseur]

Informations personnelles

Quelle est votre fonction au sein de votre entreprise? _____

Depuis combien d'année(s) travaillez-vous pour cette entreprise _____ années

Informations sur votre entreprise

Quel est le chiffre d'affaires brut de votre entreprise (approximatif)? _____$

Combien y-a-t'il d'employés à temps plein dans votre entreprise? _____ Employé(e)s

Quel pourcentage de vos ventes totales est réalisé à l'intérieur de votre pays? _____%

Quel pourcentage de vos ventes totales est réalisé par le biais du commerce électronique? _____%

Quel pourcentage de vos approvisionnements totaux est réalisé à l'intérieur de votre pays? _____%

Quel pourcentage de vos approvisionnements totaux est réalisé par le biais du commerce électronique? _____%

Combien de clients (incluant consommateurs finaux, détaillants et distributeurs) représentent 80% de vos ventes totales? _____

Combien de fournisseurs représentent 80% de vos approvisionnements totaux? _____

Où sont situés vos bureaux (où vous travaillez)? _____ Ville

_____ Pays

Êtes-vous la société mère, une filiale ou une succursale d'un groupe? Société mère
Filiale
Succursale

Si filiale ou succursale : Où est située la société mère? _____ Ville

_____ Pays

Informations sur le [fournisseur]

Depuis combiens de temps faites-vous affaires avec le [fournisseur]? _____ années_____ mois

Combien de composantes différentes avez-vous déjà achetées de ce [fournisseur]? **(incluant la [composante])** _____ composantes

Informations sur la [composante]

Depuis combien de temps, la [composante] est-elle disponible sur le marché? _____ années_____ mois

Au cours de la dernière année, vos approvisionnements de cette [composante] ont représenté quel pourcentage de vos approvisionnements totaux? (en $) _____%

Comment décrivez-vous la [composante]?

Simple	1	2	3	4	5	6	7	Sophistiquée
Non technique	1	2	3	4	5	6	7	Technique
Contenue faible en ingénierie	1	2	3	4	5	6	7	Contenue élevé en ingénierie

Comment évaluez-vous l'importance de la [composante] pour votre entreprise?

	Complètement en désaccord						**Complètement en accord**
Une rupture de stock de cette [composante] perturbera vos opérations.	1	2	3	4	5	6	7
Cette [composante] est critique à vos opérations.	1	2	3	4	5	6	7
La qualité de la [composante] exerce un impact important sur la performance de votre produit final (vos produits finaux)	1	2	3	4	5	6	7

Comment décrivez-vous le marché de la [composante]?

En déclin	1	2	3	4	5	6	7	En croissance
Instable avec de nombreux changements de concurrents	1	2	3	4	5	6	7	Stable avec peu de changements de concurrents
Instable avec de nombreux changements touchant le produit dans lequel (ou les produits dans lesquels) s'intègre la [composante]	1	2	3	4	5	6	7	Stable avec peu de changements touchant le produit dans lequel (ou les produits dans lesquels) s'intègre la [composante]
Comprend de nombreux concurrents	1	2	3	4	5	6	7	Comprend peu de concurrents

Informations sur le couple [composante]-[fournisseur]

Depuis combien de temps, votre entreprise achète-t-elle la [composante] auprès du [fournisseur]? _____ années_____ mois

Au cours de la dernière année, quelle quantité de la [composante] avez-vous acheté chez le [fournisseur]? _____ composantes

Au cours de la dernière année, combien de fois par mois avez-vous commandé des [composantes] chez le [fournisseur]? _____ fois/mois

Section 2 : Structure de la relation d'affaires entre votre entreprise et le [fournisseur] pour l'approvisionnement de la [composante]

Interdépendance

Dans le cadre de la relation d'affaires entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante], comment évaluez-vous le niveau d'interdépendance entre les deux partis.

	Complètement en désaccord						**Complètement en accord**
Dépendance de votre entreprise							
Si votre entreprise décidait d'arrêter de s'approvisionner en [composantes] chez le [fournisseur], elle pourrait facilement combler ce manque en s'approvisionnant chez d'autres fournisseurs.	1	2	3	4	5	6	7
Il existe de nombreux fournisseurs pouvant vendre à votre entreprise la [composante] à un prix compétitif.	1	2	3	4	5	6	7
Le système de production de votre entreprise peu être facilement adapté afin d'utiliser une [composante] d'un nouveau fournisseur.	1	2	3	4	5	6	7
Faire affaires avec un nouveau fournisseur pour l'approvisionnement d'une composante substitue nécessiterait un effort de conception et de développement important de la part de votre entreprise.	1	2	3	4	5	6	7
Dépendance du [fournisseur]							
Si votre entreprise décidait d'arrêter de s'approvisionner chez le [fournisseur], ce dernier pourrait facilement combler ce manque en en vendant la [composante] à d'autres clients.	1	2	3	4	5	6	7
Il serait relativement facile pour le [fournisseur] de trouver un autre acheteur pour la [composante].	1	2	3	4	5	6	7
Trouver de nouveaux acheteurs pour la [composante] n'aurait pas d'impact négatif sur le prix auquel le [fournisseur] peut vendre la [composante].	1	2	3	4	5	6	7
Si la relation entre votre entreprise et le [fournisseur] pour l'approvisionnement de la [composante] se terminait, cela ne nuerait pas aux opérations du [fournisseur].	1	2	3	4	5	6	7

Investissements relationnels spécifiques

Comment évaluez-vous les investissements relationnels (en temps et en argent) fait par votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante].

	Complètement en désaccord						**Complètement en accord**
Les deux partis ont beaucoup investis pour bâtir le partenariat.	1	2	3	4	5	6	7
Si cette relation devait se terminer, les deux partis perdraient énormément de connaissances propres à cette relation.	1	2	3	4	5	6	7
Si l'un ou l'autre des partis décidait de changer de partenaire, les deux partis perdraient une partie importante de leurs investissements mis de l'avant pour soutenir la relation actuelle.	1	2	3	4	5	6	7

Actions conjointes

Comment évaluez-vous les actions conjointes misent de l'avant par votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante].

	Complètement en désaccord						**Complètement en accord**
Votre entreprise travaille conjointement avec le [fournisseur] sur toutes les problématiques reliées aux modifications du produit dans lequel (ou des produits dans lesquels) s'intègre la composante qui pourraient avoir des implications sur ce [fournisseur].	1	2	3	4	5	6	7
Votre entreprise travaille conjointement avec le [fournisseur] sur toutes les problématiques décisionnelles reliées aux réductions de coûts qui pourraient avoir des implications sur ce [fournisseur].	1	2	3	4	5	6	7
Les planifications à long terme de votre entreprise reliées à la [composante] sont préparées conjointement avec le [fournisseur].	1	2	3	4	5	6	7
Votre entreprise et le [fournisseur] ont créé un environnement de travail à l'intérieur duquel votre entreprise et le [fournisseur] ont l'impression de faire partie de la même entreprise.	1	2	3	4	5	6	7
Votre entreprise travaille conjointement avec le [fournisseur] à former la main-d'œuvre du [fournisseur].	1	2	3	4	5	6	7
Votre entreprise travaille conjointement avec le [fournisseur] à former la main-d'œuvre de votre entreprise.	1	2	3	4	5	6	7

Confiance envers le [fournisseur]

Dans le cadre de vos activités reliées à l'approvisionnement de la [composante], comment évaluez-vous votre niveau de confiance envers le [fournisseur].

	Complètement en désaccord						**Complètement en accord**
Il vous arrive de ne pas avoir confiance envers le [fournisseur].	1	2	3	4	5	6	7
Le [fournisseur] est très honnête.	1	2	3	4	5	6	7

Vous pouvez avoir complètement confiance envers le [fournisseur].	1	2	3	4	5	6	7
Vous pouvez compter sur le [fournisseur] pour faire ce qui est juste.	1	2	3	4	5	6	7
Vous pouvez compter sur la qualité du travail du [fournisseur].	1	2	3	4	5	6	7
Le [fournisseur] est toujours loyal.	1	2	3	4	5	6	7
Le [fournisseur] est un des partenaires d'affaires en qui vous avez grandement confiance.	1	2	3	4	5	6	7
L'intégrité du [fournisseur] est irréprochable.	1	2	3	4	5	6	7

Échange d'information

Comment évaluez-vous l'échange d'information entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante].

	Complètement en désaccord						**Complètement en accord**
Les parties échangent de l'information entre elles fréquemment, de façon informelle (et non seulement en fonction d'une attente précise faite à l'avance).	1	2	3	4	5	6	7
Il est attendu que les parties sont prêtes à divulguer de l'information confidentielle si cette dernière peut venir en aide à l'autre partie.	1	2	3	4	5	6	7
Il est attendu que vous vous gardez informés des événements ou des changements pouvant avoir un impact sur l'autre parti	1	2	3	4	5	6	7

Entraide

Comment évaluez-vous le niveau d'entraide que le [fournisseur] offre à votre entreprise pour soutenir l'approvisionnement de la [composante].

	Complètement en désaccord						**Complètement en accord**
Le [fournisseur] recommande à votre entreprise des solutions de rechange lorsque des problèmes reliés à la [composante] surviennent.	1	2	3	4	5	6	7
Le [fournisseur] aide votre entreprise dans l'analyse de la valeur, la génération d'idées, les réductions de coûts, analyse de problèmes, etc.	1	2	3	4	5	6	7
Le [fournisseur] avertit votre entreprise des problèmes potentiels pouvant survenir en tentant de satisfaire les besoins de votre entreprise.	1	2	3	4	5	6	7

Niveau de Conflits

Dans le cadre de la relation d'affaires entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante], comment évaluez-vous le niveau de conflit entre votre entreprise et le [fournisseur].

	Complètement en désaccord						**Complètement en accord**
Votre entreprise argumente souvent avec le [fournisseur] sur des problématiques décisionnelles.	1	2	3	4	5	6	7
Les disputes entre votre entreprise et le [fournisseur] sont très intenses.	1	2	3	4	5	6	7
Votre entreprise est en désaccord avec le [fournisseur] quant à la meilleure façon d'atteindre vos objectifs respectifs.	1	2	3	4	5	6	7
Cette relation est caractérisée par un faible niveau d'harmonie.	1	2	3	4	5	6	7

Mécanismes de contrôle

Comment évaluez-vous les mécanismes de contrôle du [fournisseur] mis en place par votre entreprise pour soutenir l'approvisionnement de la [composante].

	Complètement en désaccord						**Complètement en accord**
Votre entreprise avise le [fournisseur] quant à sa performance par rapport aux autres fournisseurs.	1	2	3	4	5	6	7
Votre entreprise contrôle le niveau d'inventaire de la [composante] du [fournisseur].	1	2	3	4	5	6	7
Votre entreprise vérifie la performance du [fournisseur] à l'aide d'un programme formel d'évaluation des fournisseurs.	1	2	3	4	5	6	7
Selon l'entente que votre entreprise a établie avec le [fournisseur], ce dernier doit fournir à votre entreprise des états récapitulatifs, des feuilles de contrôle ou un rapport similaire quelconque (sur une base trimestriel ou mensuel).	1	2	3	4	5	6	7
Votre entreprise offre aux employés du [fournisseur] de la formation en matière d'assurance de la qualité.	1	2	3	4	5	6	7
La relation entre votre entreprise et le [fournisseur] fait usage de nombreux contrôles.	1	2	3	4	5	6	7

Formalité des communications

Comment caractérisez-vous les communications entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante].

	Complètement en désaccord						Complètement en accord
Des canaux de communications formels sont utilisés (c.-à-d., modes de communication régularisés et structurés comparativement à des modes occasionnels, informels ou de bouche à oreille) lorsque vous coordonnez vos activités avec le [fournisseur].	1	2	3	4	5	6	7
Les termes de la relation entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante] ont été notés à l'écrit de manières détaillées.	1	2	3	4	5	6	7
Les attentes que votre entreprise a envers le [fournisseur] pour soutenir l'approvisionnement de la [composante] lui sont communiquées en détail.	1	2	3	4	5	6	7
Les termes de la relation entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante] ont été verbalisés et discutés explicitement.	1	2	3	4	5	6	7

Centralisation des décisions

Comment caractérisez-vous le processus de prise de décisions reliés à l'approvisionnement de la [composante] auprès du [fournisseur].

	Complètement en désaccord						Complètement en accord
Votre entreprise a le dernier mot en ce qui attrait aux activités journalières du [fournisseur].	1	2	3	4	5	6	7
Chaque décision importante prise par le [fournisseur] doit être approuvée par votre entreprise.	1	2	3	4	5	6	7
Dans la relation entre votre entreprise et le [fournisseur], même les décisions mineures, doivent être approuvées par un supérieur d'un ou des deux entreprises.	1	2	3	4	5	6	7
Le [fournisseur] doit demander la permission à votre entreprise avant de faire quoi que ce soit.	1	2	3	4	5	6	7
Le [fournisseur] peut faire très peu de choses par lui-même sans avoir l'approbation de votre entreprise.	1	2	3	4	5	6	7
Votre entreprise prend la grande majorité des décisions qui ont un impact sur le [fournisseur] et ne l'en averti qu'une fois les faits accomplis.	1	2	3	4	5	6	7
Le [fournisseur] est laissée à lui-même pour prendre les décisions journalières.	1	2	3	4	5	6	7

Le [fournisseur] joue un rôle actif dans les prises de décisions.							
Les suggestions du [fournisseur] sont encouragées.	1	2	3	4	5	6	7
Votre entreprise prend ses décisions sans consulter le [fournisseur].	1	2	3	4	5	6	7
Le [fournisseur] ne prend pas part aux décisions de votre entreprise reliées aux ventes et marketing du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante].	1	2	3	4	5	6	7

Culture commune

Dans le cadre de la relation d'affaires entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante], votre entreprise et le [fournisseur] :

	Complètement en désaccord						**Complètement en accord**
… avez des cultures d'entreprise différentes.	1	2	3	4	5	6	7
… avez de la difficulté à comprendre leurs règles d'affaires respectives.	1	2	3	4	5	6	7
…avez des processus de prise de décisions, de résolution de problèmes et de communication similaires.	1	2	3	4	5	6	7

Analysabilité de vos tâches

Comment évaluez-vous l'analysabilité (i.e. la mesure dans laquelle il vous est facile d'analyser vos tâches) de vos tâches rattachées à l'approvisionnement de la [composante] auprès du [fournisseur].

	Complètement en désaccord						**Complètement en accord**
Il existe une façon bien connue de faire la majeure partie du travail que vous devez accomplir.	1	2	3	4	5	6	7
Il existe un ensemble de connaissances ou de matières bien connues pouvant vous guider dans l'accomplissement de votre travail.	1	2	3	4	5	6	7
Il existe une séquence d'étapes compréhensibles qui peut être suivi lorsque vous faites votre travail.	1	2	3	4	5	6	7
Pour faire votre travail, vous vous appuyez sur des procédures et des pratiques préétablies.	1	2	3	4	5	6	7

Variabilités de vos tâches

Comment évaluez-vous la variabilité de vos tâches rattachées à l'approvisionnement de la [composante] auprès du [fournisseur].

	Complètement en désaccord						**Complètement en accord**
Vos tâches sont les mêmes d'un jour à l'autre.	1	2	3	4	5	6	7
Votre travail est routinier.	1	2	3	4	5	6	7
Vous faites la même tâche de la même façon la plupart du temps.	1	2	3	4	5	6	7
Vos tâches sont répétitives.	1	2	3	4	5	6	7

Section 3 : Utilisation des SIIOs pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]

Systèmes d'Information InterOrganisationnels (SIIOs)

Le tableau ci-dessous contient une liste des différents SIIOs susceptibles de soutenir les activités électroniques d'une entreprise.

Précisez, via des %, l'utilisation de chacun de ces SIIOs par votre entreprise pour soutenir ses activités électroniques reliées à l'approvisionnement de la [composante] chez le [fournisseur]. La somme des % à la fin du tableau doit totaliser 100%.

De plus, indiquez depuis combien de temps (en mois), votre entreprise utilise chacun des SIIOs suivants avec le [fournisseur] pour soutenir l'approvisionnement de la [composante].

	% d'utilisation	**Nombre de mois d'utilisation**
Quel % du temps votre entreprise utilise-t-elle son réseau privé d'échange de documents informatisés (EDI) pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle le réseau privé d'échange de documents informatisés (EDI) du [fournisseur] pour soutenir l'approvisionnement de la [composante]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle son site Web et/ou son extranet (c.-à-d. son intranet auquel vous avez donné accès à votre [fournisseur]) pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle le site Web et/ou l'extranet du [fournisseur] pour soutenir l'approvisionnement de la [composante]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle une place d'affaires électronique sur Internet géré par un intermédiaire spécialisé pour soutenir l'approvisionnement de la [composante] chez le fournisseur?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle une de ses applications non Web (progiciel, progiciel de gestion intégré, progiciel développé à l'interne) connectée au réseau Internet pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle une application non Web (progiciel de gestion intégré, progiciel développé à l'interne) du [fournisseur] connecté au réseau Internet pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle le courrier électronique pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____

Quel % du temps votre entreprise utilise-t-elle le télécopieur (via le réseau téléphonique ou Internet) pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]? _____ **%** **Total = 100 %** _____

Activités électroniques

Dans le cadre de votre relation avec le [fournisseur], votre entreprise utilise-t-elle des SIIOs pour soutenir chacune des activités suivantes reliées à l'approvisionnement de la [composante] :

Si oui, indiquer dans quelle proportion du temps vous utilisez les SIIOs pour:
(ex. notre entreprise effectue cette activité à l'aide des SIIOs 30% du temps)

L'entreprise utilise des SIIOs pour :

Prendre connaissance du prix de la [composante] désirée.	☐ Oui ☐ Non	___%
Prendre connaissance des spécifications techniques de la [composante].	☐ Oui ☐ Non	___%
Prendre connaissance des informations reliées à la livraison de la [composante] (ex., transporteur, délai de livraison).	☐ Oui ☐ Non	___%
Inviter le [fournisseur] à participer à un appel d'offres ou soumettre une demande de prix en vue de vous vendre la [composante].	☐ Oui ☐ Non	___%
Recevoir du [fournisseur] une soumission ou proposition de prix en vue de vous vendre la [composante]	☐ Oui ☐ Non	___%
Négocier avec le [fournisseur] les conditions de vente de la [composante] (ex., prix, spécifications, délai de livraison).	☐ Oui ☐ Non	___%
Informer le [fournisseur] qu'il a gagné une soumission ou que sa proposition de prix a été acceptée.	☐ Oui ☐ Non	___%
Passer un ordre d'achat chez le [fournisseur] (inclus achats répétitifs).	☐ Oui ☐ Non	___%
Recevoir une confirmation du [fournisseur] qu'il accepte un ordre d'achat.	☐ Oui ☐ Non	___%
S'informer auprès du [fournisseur] du statut d'un ordre d'achat en cours (ex., en traitement, en rupture de stock).	☐ Oui ☐ Non	___%
Informer le [fournisseur] d'une modification à apporter à un ordre d'achat en cours.	☐ Oui ☐ Non	___%
Échanger avec le [fournisseur] des informations afin de décider du sort et/ou de régler les problèmes reliés à un ordre d'achat en rupture de stock.	☐ Oui ☐ Non	___%
Recevoir une confirmation du [fournisseur] qu'un ordre d'achat a été expédiée.	☐ Oui ☐ Non	___%
Informer le [fournisseur] que certaines [composantes] de l'ordre d'achat n'ont pas passé les tests de qualité.	☐ Oui ☐ Non	___%
Recevoir du [fournisseur] une facture relative à un ordre d'achat	☐ Oui ☐ Non	___%
Payer une facture du [fournisseur] relative à un ordre d'achat	☐ Oui ☐ Non	___%
Échanger avec le [fournisseur] des informations pour justifier et planifier un retour de marchandises.	☐ Oui ☐ Non	___%

Échanger avec le [fournisseur] des informations afin de régler les problèmes pouvant surgir après l'achat de [composantes].	☐ Oui ☐ Non	___%
Connaître l'historique de vos achats de la [composante] fait chez le [fournisseur].	☐ Oui ☐ Non	___%
Recevoir un avis du [fournisseur] que le prix de la [composante] est sujet à changements.	☐ Oui ☐ Non	___%
Recevoir des informations du [fournisseur] sur la ou les pièces pouvant substituer la [composante] achetée.	☐ Oui ☐ Non	___%
Échanger avec le [fournisseur] des informations techniques (p. ex. dessins techniques) en vu d'améliorer la qualité de la [composante].	☐ Oui ☐ Non	___%
Recevoir du [fournisseur] le plan de production de la [composante].	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] le plan de production de votre produit dans lequel (ou de vos produits dans lesquels) s'intègre la [composante].	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] vos prévisions de ventes du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante] pour le prochain mois (court terme).	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] vos prévisions de ventes du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante] pour la prochaine année (long terme).	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] les informations recueillies aux différents points de vente du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante].	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] le détail des promotions à venir sur le produit dans lequel (ou les produits dans lesquels) s'intègre la [composante] (dates, rabais, conditions, etc.).	☐ Oui ☐ Non	___%
Échanger avec le [fournisseur] des informations concernant la planification de la livraison de la [composante].	☐ Oui ☐ Non	___%
Informer le [fournisseur] de votre politique de gestion des inventaires.	☐ Oui ☐ Non	___%
Accéder à l'inventaire de la [composante] du [fournisseur].	☐ Oui ☐ Non	___%
Permettre au [fournisseur] d'accéder à votre inventaire du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante].	☐ Oui ☐ Non	___%

Intégration interne

Précisez comment les données (reçues/envoyées) pour soutenir les activités électroniques de votre entreprise énumérées ci-dessus, sont-elles intégrées aux données des systèmes internes suivants de votre entreprise :

	Manuellement						**Automatiquement**	
Applications reliées aux approvisionnements	1	2	3	4	5	6	7	n/a
Applications manufacturières (ex., MRP, MRPII, MES)	1	2	3	4	5	6	7	n/a
Applications de vente et marketing (ex., CRM)	1	2	3	4	5	6	7	n/a
Applications de logistique et de distribution (inclus les systèmes de gestion des inventaires) (ex., LES)	1	2	3	4	5	6	7	n/a
Applications de comptabilité et de finance	1	2	3	4	5	6	7	n/a
Applications de développement et d'ingénierie des produits (ex., CAD, CAM, PDM/VPDM)	1	2	3	4	5	6	7	n/a

Intégration externe

Au meilleur de vos connaissances, précisez comment les données (reçues/envoyées) pour soutenir les activités électroniques de votre entreprise énumérées ci-dessus, sont-elles intégrées aux données des systèmes internes de votre [fournisseur].

Manuellement 1 2 3 4 5 6 7 **Automatiquement**

Section 4 : Évaluation de votre relation d'affaires avec le [fournisseur] pour l'approvisionnement de la [composante]

Performance opérationnelle

Évaluez la performance des processus d'affaires de votre entreprise soutenant l'approvisionnement de la [composante] chez le [fournisseur] selon les dimensions suivantes :

	Pas très bon(ne)			**Moyen(ne)**			**Très bon(ne)**
Vitesse de livraison des [composantes]	1	2	3	4	5	6	7
Fiabilité des livraisons des [composantes]	1	2	3	4	5	6	7
Pourcentage de [composantes] retournées au [fournisseur]	1	2	3	4	5	6	7
Pourcentage de [composantes] défectueuses identifiées lors de la production du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante]	1	2	3	4	5	6	7
Coûts de production du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante]	1	2	3	4	5	6	7
Délais d'exécution lors de la production du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante]	1	2	3	4	5	6	7
Taux de roulement de votre inventaire de la [composante]	1	2	3	4	5	6	7
La flexibilité de s'adapter aux changements dans le calendrier de livraison de [composantes] sans pour autant utiliser les stocks de sécurité de la [composantes] et accroître le délai de livraison du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante].	1	2	3	4	5	6	7

Échange d'information

Dans le cadre de vos activités reliées à l'approvisionnement de la [composante], comment évaluez-vous votre niveau de satisfaction de l'information échangée entre votre entreprise et le [fournisseur] selon les dimensions suivantes :

	Pas très satisfait			**Plus ou moins satisfait**			**Extrêmement satisfait**
Le niveau de détail de l'information	1	2	3	4	5	6	7
Qualité de l'information	1	2	3	4	5	6	7
Quantité d'information	1	2	3	4	5	6	7
La ponctualité de l'information	1	2	3	4	5	6	7
L'utilité de l'information	1	2	3	4	5	6	7
La fiabilité de l'information	1	2	3	4	5	6	7

Satisfaction de la relation

Dans le cadre de vos activités reliées à l'approvisionnement de la [composante], comment évaluez-vous votre niveau de satisfaction de la relation d'affaires entre votre entreprise et le [fournisseur].

Pas très satisfait	1	2	3	4	5	6	7	**Extrêmement satisfait**

Section 5 : Utilisation des SIIOs pour soutenir vos activités interorganisationnelles avec l'ensemble de vos fournisseurs

Utilisation des SIIOs pour soutenir vos activités d'approvisionnement avec l'ensemble de vos fournisseurs

Le tableau ci-dessous contient une liste des différents SIIOs susceptibles de soutenir les activités électroniques d'une entreprise.

Précisez, via des %, avec quel pourcentage de ses fournisseurs votre entreprise utilise-t-elle les SIIOs suivants pour soutenir ses activités d'approvisionnement **(inclus toutes les composantes de tous les produits de votre entreprise)**.

De plus, indiquez depuis combien de temps (en mois), votre entreprise utilise chacun de ces SIIOs pour soutenir ses activités d'approvisionnement **(inclus toutes les composantes de tous les produits de votre entreprise)**.

	% d'utilisation	**Nombre de mois d'utilisation**
Votre entreprise utilise son réseau privé d'échange de documents informatisés (EDI) pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____
Votre entreprise utilise le réseau privé d'échange de documents informatisés (EDI) de quel % de ses fournisseurs pour soutenir ses activités d'approvisionnement?	_____ %	_____
Votre entreprise utilise son site Web et/ou son extranet (c.-à-d. son intranet auquel vous avez donné accès à vos fournisseurs) pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____
Votre entreprise utilise le site Web et/ou l'extranet de quel % de ses fournisseurs pour soutenir ses activités d'approvisionnement?	_____ %	_____
Votre entreprise utilise une place d'affaires électronique sur Internet géré par un intermédiaire spécialisé pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____
Votre entreprise utilise une de ses applications non Web (progiciel de gestion intégré, progiciel développé à l'interne) connectée au réseau Internet pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____
Votre entreprise utilise une application non Web (progiciel de gestion intégré, progiciel développé à l'interne) connecté au réseau Internet de quel % de ses fournisseurs pour soutenir ses activités d'approvisionnement?	_____ %	_____
Votre entreprise utilise le courrier électronique pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____

Votre entreprise utilise le télécopieur (via le réseau téléphonique ou Internet) pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs. _____ % _____

Annexe : Définition des différents termes techniques utilisés dans le questionnaire

Applications:
Ensemble de programmes informatiques qui servent à aider un utilisateur à faire un certain travail (source : Office de la langue française du Québec, www.granddictionnaire.com).

Application web : Application pouvant tourner sur un serveur Web (source : Office de la langue française du Québec, www.granddictionnaire.com).

CAD (Computer Aided Design) - Conception assistée par ordinateur :
Discipline ayant recours aux techniques informatiques pour imaginer un objet, en achever la forme et générer les données nécessaires à sa fabrication (source : Office de la langue française du Québec, www.granddictionnaire.com).

CAM (computer-aided manufacturing) - Fabrication assistée par ordinateur :
Fabrication ayant recours aux techniques informatiques qui permettent de générer les paramètres nécessaires à la réalisation d'un objet ou d'un produit et de traiter les données essentielles au fonctionnement des systèmes automatisés utilisés dans les différentes phases de la production de ce même objet ou de ce même produit (source : Office de la langue française du Québec, www.granddictionnaire.com).

Commerce électronique : Le commerce électronique fait tout particulièrement référence à une commande passée sur Internet quel que soit le mode de paiement (source : Statistique Canada, www.statcan.ca).

Courrier électronique : Service de correspondance qui permet l'échange de messages électroniques à travers un réseau informatique (source : Office de la langue française du Québec, www.granddictionnaire.com).

CRM (Customer Relationship Management) – Outils de gestion de la relation client :
Outil informatique développé expressément pour permettre à une entreprise de fidéliser ses clients et d'accroître sa part du marché, en intégrant la gestion des données relatives aux besoins et aux attentes du client, dans le contexte de la vente et des services après-vente, en ligne ou non (source : Office de la langue française du Québec, www.granddictionnaire.com).

EDI (Electronic Date Interchange) - Échange de données informatisées :
Échange entre différentes organisations, de données structurées, directement émises et traitées par des ordinateurs, et dont l'efficacité repose sur l'utilisation de messages préétablis et de procédures normalisées (source : Office de la langue française du Québec, www.granddictionnaire.com).

ERP (Enterprise Resource Planning) - Progiciel de gestion intégré :
Logiciel qui permet de gérer l'ensemble des processus d'une entreprise, en intégrant l'ensemble des fonctions de cette dernière comme la gestion des ressources humaines, la gestion comptable et financière, l'aide à la décision, mais aussi la vente, la distribution, l'approvisionnement, le commerce électronique (source : Office de la langue française du Québec, www.granddictionnaire.com).

Extranet : Réseau informatique sécurisé, généralement constitué d'une partie de l'intranet d'une entreprise ou d'une organisation communiquant à travers le réseau Internet, qui est accessible à une clientèle externe ciblée, devant utiliser un mot de passe. L'Extranet est réservé à un nombre restreint de personnes extérieures à l'entreprise ou à l'organisation, en particulier ses partenaires, ses clients ou fournisseurs. À l'origine, l'Extranet avait un caractère essentiellement commercial. Un Extranet peut être mis en place rapidement par la création d'un site Web commun aux entreprises ou organisations participantes; cependant, celles-ci doivent partager le même type d'équipement (source : Office de la langue française du Québec, www.granddictionnaire.com).

Internet : Réseau informatique mondial constitué d'un ensemble de réseaux nationaux, régionaux et privés, qui sont reliés par le protocole de communication TCP-IP (source : Office de la langue française du Québec, www.granddictionnaire.com).

LES (Logistics Execution System) - Système d'exécution logistique :
Un système d'exécution logistique permet de gérer les informations et les processus impliqués dans toutes les étapes d'une chaîne logistique à partir des matières premières jusqu'à la distribution des produits finis. Le système relie les processus impliqués dans l'approvisionnement, la prise de commande, la production, l'entreposage, la gestion de l'inventaire, l'expédition et les ventes (source : Office de la langue française du Québec, www.granddictionnaire.com).

MES (Manufacturing Execution System) - Système d'exécution de la fabrication :
Système informatisé qui permet d'assurer le suivi, en temps réel, des diverses étapes de la production (source : Office de la langue française du Québec, www.granddictionnaire.com).

MRP (Material Requirement Planning) - Planification des besoins matières :
Méthode de planification et de gestion de l'ensemble des besoins de composants nécessaires à la réalisation du programme directeur de production à partir des nomenclatures et des états de stock de fabrication (source : Office de la langue française du Québec, www.granddictionnaire.com).

MRP2 (Manufacturing Resource Planning) - Planification des ressources de production :
Méthode utilisée pour planifier et contrôler l'ensemble des ressources de l'entreprise
PBCDP est l'abréviation de « planification des besoins en composants et définition des priorités ». Elle englobe le plan de l'entreprise, le plan directeur de production, le plan des besoins en matières, le plan des besoins en capacité et les supports permettant la réalisation efficace et le contrôle (source : Office de la langue française du Québec, www.granddictionnaire.com).

PDM/VPDM (Product Data Management) - Gestion des données produits :
Ensemble complet de systèmes d'information pour gérer toutes les données et fichiers reliés à un produit (source : Office de la langue française du Québec, www.granddictionnaire.com).

Place d'affaires électronique : Plateforme Internet destinée au commerce interentreprises, qui facilite les échanges entre plusieurs acheteurs et vendeurs d'un même secteur d'activité ou de différents secteurs, en vue de collaborer, de négocier et de conclure des transactions à valeur ajoutée, pour des biens et services de production ou de fonctionnement (source : Office de la langue française du Québec, www.granddictionnaire.com).

Réseau téléphonique : Réseau basé sur l'utilisation des techniques téléphoniques pour acheminer les données (source : Office de la langue française du Québec, www.granddictionnaire.com).

SIIO (Système d'information interorganisationnel):
Système d'information informatisé qui est partagé par deux ou plusieurs organisations ou entreprises, et qui, relié ainsi en réseau, permet d'améliorer leur fonction commerciale commune (source : Office de la langue française du Québec, www.granddictionnaire.com).
L'échange de données informatisées [EDI] est probablement la technologie la plus connue permettant l'échange de données entre partenaires d'affaires. Toutefois, dans le contexte actuel de la nouvelle économie numérique, de plus en plus d'entreprises privilégient l'utilisation d'applications Web et du réseau Internet pour communiquer et échanger de l'information avec leurs partenaires d'affaires.

SRM (Supplier Relationship Management) – Outils de gestion de la relation fournisseur:
Outil informatique développé expressément pour permettre à une entreprise d'améliorer la communication avec ses différents fournisseurs, de partager une méthodologie, des termes métiers et des informations avec eux et d'avoir une meilleure connaissance de chacun d'entre-eux afin d'optimiser le processus d'approvisionnement. À l'inverse, il s'agit également de faire en sorte que les fournisseurs connaissent mieux le cœur de métier de l'entreprise et ses différents produits afin d'obtenir un approvisionnement adapté (source : Comment Ça Marche, www.commentcamarche.net).

Appendix D: Pilot test # 2: Survey instrument

UNIVERSITÉ DE SHERBROOKE

L'INFLUENCE DE L'UTILISATION DES SYSTÈMES D'INFORMATION INTERORGANISATIONNELS SUR LA PERFORMANCE DES RELATIONS INTER-ORGANISATIONNELLES : LE CAS DES ENTREPRISES MANUFACTURIÈRES QUÉBÉCOISES

La présente étude est réalisée dans le cadre du mémoire de maîtrise de Philippe Marchildon, étudiant à la M.Sc. en Gestion du commerce électronique à l'Université de Sherbrooke. Cette recherche est conduite sous la direction de Pierre Hadaya, professeur au département de management et technologie de l'Université du Québec à Montréal.

Le principal objectif de cette étude est de comprendre comment l'utilisation des systèmes d'information interorganisationnels (SIIOs) peut influencer la performance des relations inter-organisationnelles des entreprises manufacturières québécoises.

Avant de remplir le questionnaire ci-joint, nous vous prions de prendre en note les informations suivantes :

8. Les informations collectées se rapportent à l'approvisionnement d'**une composante** importante qui s'intègre dans la fabrication d'un produit final (ou de plusieurs produits finaux) de votre organisation et qui est achetée chez **un de vos fournisseurs externes**.

9. S.V.P., inscrivez, à l'intérieur du tableau qui suit, le nom de la [composante] choisie, une description de la dite [composante] et le nom du produit final à l'intérieur duquel (ou des produits finaux à l'intérieur desquels) elle sera utilisée :

Nom de la composante	Description de la composante	Nom du produit final (des produits finaux)

10. Spécifiez si votre entreprise achète un volume très important ou modérément important de cette [composante] auprès du [fournisseur] **(veuillez cocher la case appropriée)** :

Volume très important
Volume modérément important

11. Spécifiez si la relation d'affaires entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante] est une relation bien établie ou relativement nouvelle **(veuillez cocher la case appropriée)**:

Bien établie
Relativement nouvelle

12. Notre étude ne cherche pas à décrire chacune des entreprises interrogées de manière individuelle mais vise plutôt à identifier les tendances qui se dessinent à l'intérieur d'un échantillon d'entreprises canadiennes. De plus, soyez assuré que toutes les données que vous nous fournirez dans le cadre de cette recherche seront traitées de **manières confidentielles**.

13. Veuillez, S.V.P., prendre le temps de bien répondre à l'ensemble du questionnaire. Au besoin, nous vous invitons à consulter l'annexe ci-joint comprenant une définition de certains termes techniques listés dans le questionnaire.

14. Compléter l'ensemble du questionnaire, comprenant 5 sections sur 17 pages, requiert de 30 à 45 minutes de votre temps.

Pour toutes questions ou informations complémentaires, veuillez vous adresser à :

Philippe Marchildon
Courriel : Philippe.marchildon@usherbrooke.ca

Pierre Hadaya
Courriel : hadaya.pierre@uqam.ca

Merci pour votre collaboration

Section 1 : Vous, votre entreprise, le [fournisseur], la [composante] et le couple [composante]-[fournisseur]

Informations personnelles

Quelle est votre fonction au sein de votre entreprise? _____

Depuis combien d'année(s) travaillez-vous pour cette entreprise _____ années

Informations sur votre entreprise

Quel est le chiffre d'affaires brut de votre entreprise (approximatif)? _____$

Combien y-a-t'il d'employés à temps plein dans votre entreprise? _____ Employé(e)s

Quel pourcentage de vos ventes totales est réalisé à l'intérieur de votre pays? _____%

Quel pourcentage de vos ventes totales est réalisé par le biais du commerce électronique? _____%

Quel pourcentage de vos approvisionnements totaux est réalisé à l'intérieur de votre pays? _____%

Quel pourcentage de vos approvisionnements totaux est réalisé par le biais du commerce électronique? _____%

Combien de clients (incluant consommateurs finaux, détaillants et distributeurs) représentent 80% de vos ventes totales? _____

Combien de fournisseurs représentent 80% de vos approvisionnements totaux? _____

Où sont situés vos bureaux (où vous travaillez)? _____ Ville

_____ Pays

Êtes-vous la société mère, une filiale ou une succursale d'un groupe? Société mère
Filiale
Succursale

Si filiale ou succursale : Où est située la société mère? _____ Ville

_____ Pays

Informations sur le [fournisseur]

Depuis combiens de temps faites-vous affaires avec le [fournisseur]? _____ années_____ mois

Combien de composantes différentes avez-vous déjà achetées de ce [fournisseur]? **(incluant la [composante])** _____ composantes

Informations sur la [composante]

Depuis combien de temps, la [composante] est-elle disponible sur le marché? _____ années_____ mois

Au cours de la dernière année, vos approvisionnements de cette [composante] ont représenté quel pourcentage de vos approvisionnements totaux? (en $) _____%

Comment décrivez-vous la [composante]?

Simple	1	2	3	4	5	6	7	Sophistiquée
Non technique	1	2	3	4	5	6	7	Technique
Contenue faible en ingénierie	1	2	3	4	5	6	7	Contenue élevé en ingénierie

Comment évaluez-vous l'importance de la [composante] pour votre entreprise?

	Complètement en désaccord						**Complètement en accord**
Une rupture de stock de cette [composante] perturberait vos opérations.	1	2	3	4	5	6	7
Cette [composante] est critique à vos opérations.	1	2	3	4	5	6	7
La qualité de la [composante] influence considérablement la performance de votre produit final (vos produits finaux)	1	2	3	4	5	6	7

Comment décrivez-vous l'incertitude reliée à l'approvisionnement de la [composante]?

	Complètement en désaccord						**Complètement en accord**
Le prix de la [composante] varie significativement d'un fournisseur à l'autre.	1	2	3	4	5	6	7
La qualité de la [composante] et le service offert varient considérablement d'un fournisseur à l'autre.	1	2	3	4	5	6	7
Au fil du temps, le prix de la [composante] fluctue grandement.	1	2	3	4	5	6	7
Au fil du temps, la disponibilité de la [composante] fluctue grandement.	1	2	3	4	5	6	7

Informations sur le couple [composante]-[fournisseur]

Depuis combien de temps, votre entreprise achète-t-elle la [composante] auprès du [fournisseur]? _____ années_____ mois

Au cours de la dernière année, quelle quantité de la [composante] avez-vous acheté chez le [fournisseur]? _____ composantes

Au cours de la dernière année, combien de fois par mois avez-vous commandé des [composantes] chez le [fournisseur]? _____ fois/mois

Section 2 : Structure de la relation d'affaires entre votre entreprise et le [fournisseur] pour l'approvisionnement de la [composante]

Interdépendance

Dans le cadre de la relation d'affaires entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante], comment évaluez-vous le niveau d'interdépendance entre les deux partis.

	Complètement en désaccord						**Complètement en accord**
Dépendance de votre entreprise							
Si votre entreprise décidait d'arrêter de s'approvisionner en [composantes] chez le [fournisseur], elle pourrait facilement combler ce manque en s'approvisionnant chez d'autres fournisseurs.	1	2	3	4	5	6	7
Il existe de nombreux fournisseurs pouvant vendre à votre entreprise la [composante] à un prix compétitif.	1	2	3	4	5	6	7
Le système de production de votre entreprise peu être facilement adapté afin d'utiliser une [composante] d'un nouveau fournisseur.	1	2	3	4	5	6	7
Faire affaires avec un nouveau fournisseur pour l'approvisionnement de la [composante] nécessiterait un effort de conception et de développement important de la part de votre entreprise.	1	2	3	4	5	6	7
Dépendance du [fournisseur]							
Si votre entreprise décidait d'arrêter de s'approvisionner chez le [fournisseur], ce dernier pourrait facilement combler ce manque en en vendant la [composante] à d'autres clients.	1	2	3	4	5	6	7
Il serait relativement facile pour le [fournisseur] de trouver un autre acheteur pour la [composante].	1	2	3	4	5	6	7
Trouver de nouveaux acheteurs pour la [composante] aurait un impact négatif sur le prix auquel le [fournisseur] peut vendre la [composante].	1	2	3	4	5	6	7
Si la relation entre votre entreprise et le [fournisseur] pour l'approvisionnement de la [composante] se terminait, cela nuerait aux opérations du [fournisseur].	1	2	3	4	5	6	7

Investissements relationnels spécifiques

Comment évaluez-vous les investissements relationnels fait par votre entreprise pour soutenir l'approvisionnement de la [composante] auprès du [fournisseur].

	Complètement en désaccord						**Complètement en accord**
Votre entreprise a investi de façon significative en outils et en équipements dédiés à la relation avec le [fournisseur] pour l'approvisionnement de la [composante].	1	2	3	4	5	6	7
Le [fournisseur] utilise des normes et des standards technologiques inhabituels qui ont demandé une adaptation de votre part.	1	2	3	4	5	6	7
Former et qualifier le [fournisseur] a demandé un engagement substantiel en temps et en argent de votre part.	1	2	3	4	5	6	7
Le system de production de votre entreprise a été adapté afin d'utiliser la [composante] du [fournisseur].	1	2	3	4	5	6	7
Le system de production de votre entreprise a été adapté afin de rencontrer les exigences de votre relation d'affaires avec le [fournisseur].	1	2	3	4	5	6	7
Votre entreprise a du investir dans des outils et des équipements hautement spécialisés pour pouvoir faire affaires avec le [fournisseur].	1	2	3	4	5	6	7

Actions conjointes

Comment évaluez-vous les actions conjointes misent de l'avant par votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante].

	Pas du tout impliqué						**Grandement impliqué**
Votre entreprise travaille conjointement avec le [fournisseur] sur le design initial du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante].	1	2	3	4	5	6	7
Votre entreprise travaille conjointement avec le [fournisseur] à l'amélioration de la qualité du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante].	1	2	3	4	5	6	7
Votre entreprise travaille conjointement avec le [fournisseur] à réduire les coûts du produit dans lequel (des produits dans lesquels) s'intègre la [composante].	1	2	3	4	5	6	7
Votre entreprise travaille conjointement avec le [fournisseur] à modifier le produit dans lequel (les produits dans lesquels) s'intègre la [composante].	1	2	3	4	5	6	7

Votre entreprise travaille conjointement avec le [fournisseur] à modifier les processus de production du produit dans lequel (des produits dans lesquels) s'intègre la [composante].	1	2	3	4	5	6	7
Votre entreprise travaille conjointement avec le [fournisseur] sur les aspects reliés à la sous-traitance de la [composante].	1	2	3	4	5	6	7
Votre entreprise travaille conjointement avec le [fournisseur] sur la planification de l'approvisionnement en [composantes] pour le produit dans lequel (ou les produits dans lesquels) s'intègre la [composante].	1	2	3	4	5	6	7

Confiance envers le [fournisseur]

Dans le cadre de vos activités reliées à l'approvisionnement de la [composante], comment évaluez-vous votre niveau de confiance envers le [fournisseur].

	Complètement en désaccord						**Complètement en accord**
Il vous arrive de ne pas avoir confiance envers le [fournisseur].	1	2	3	4	5	6	7
Le [fournisseur] est très honnête.	1	2	3	4	5	6	7
Vous pouvez avoir complètement confiance envers le [fournisseur].	1	2	3	4	5	6	7
Vous pouvez compter sur le [fournisseur] pour faire ce qui est juste.	1	2	3	4	5	6	7
Vous pouvez compter sur la qualité du travail du [fournisseur].	1	2	3	4	5	6	7
Le [fournisseur] est toujours loyal.	1	2	3	4	5	6	7
Le [fournisseur] est un des partenaires d'affaires en qui vous avez grandement confiance.	1	2	3	4	5	6	7
L'intégrité du [fournisseur] est irréprochable.	1	2	3	4	5	6	7

Échange d'information

Comment évaluez-vous l'échange d'information entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante].

	Complètement en désaccord						**Complètement en accord**
Les parties échanges de l'information entre elles fréquemment.	1	2	3	4	5	6	7
Les parties échanges entre elles de l'information de façon informelle (et non seulement en fonction d'une attente précise faite à l'avance).	1	2	3	4	5	6	7
Il est attendu que les parties sont prêtes à divulguer de l'information propriétaire si cette dernière peut venir en aide à l'autre partie.	1	2	3	4	5	6	7
Il est attendu que vous vous gardez informés des événements ou des changements pouvant avoir un impact sur l'autre parti.	1	2	3	4	5	6	7

Entraide

Comment évaluez-vous le niveau d'entraide que le [fournisseur] offre à votre entreprise pour soutenir l'approvisionnement de la [composante].

	Complètement en désaccord						**Complètement en accord**
Le [fournisseur] vous appelle en avance pour vous aviser de problèmes reliés à la livraison de la [composante].	1	2	3	4	5	6	7
Le [fournisseur] fait un effort pour vous aider durant les situations d'urgences.	1	2	3	4	5	6	7
Le [fournisseur] vous recommande des solutions de rechange lorsque des problèmes reliés à la [composante] surviennent.	1	2	3	4	5	6	7
Le [fournisseur] aide votre entreprise dans l'analyse de la valeur, la génération d'idées, les réductions de coûts, analyse de problèmes, etc.	1	2	3	4	5	6	7
Le [fournisseur] avise votre entreprise des problèmes potentiels pouvant survenir en tentant de satisfaire vos besoins reliés à l'approvisionnement de la [composante].	1	2	3	4	5	6	7

Niveau de Conflits

Dans le cadre de la relation d'affaires entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante], comment évaluez-vous le niveau de conflit entre votre entreprise et le [fournisseur].

	Complètement en désaccord						**Complètement en accord**
Votre entreprise argumente souvent avec le [fournisseur] sur des problématiques décisionnelles.	1	2	3	4	5	6	7
Les disputes entre votre entreprise et le [fournisseur] sont très intenses.	1	2	3	4	5	6	7
Votre entreprise est en désaccord avec le [fournisseur] quant à la meilleure façon d'atteindre vos objectifs respectifs.	1	2	3	4	5	6	7
Cette relation est caractérisée par un faible niveau d'harmonie.	1	2	3	4	5	6	7

Mécanismes de contrôle

Dans le cadre de la relation d'affaires entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante], dans quelle mesure votre entreprise contrôle-t-elle les éléments suivants :

	Aucun contrôle						**Très grand contrôle**
La qualité de la [composante].	1	2	3	4	5	6	7
La ponctualité des livraisons de la [composante].	1	2	3	4	5	6	7
La compétitivité du prix de la [composante].	1	2	3	4	5	6	7
La conformité des livraisons de la [composante].	1	2	3	4	5	6	7

Formalité des communications

Comment caractérisez-vous les communications entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante].

	Complètement en désaccord						Complètement en accord
Des canaux de communications formels sont utilisés (c.-à-d., modes de communication régularisés et structurés comparativement à des modes occasionnels, informels ou de bouche à oreille) lorsque vous coordonnez vos activités avec le [fournisseur].	1	2	3	4	5	6	7
Les termes de la relation entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante] ont été notés à l'écrit de manières détaillées.	1	2	3	4	5	6	7
Les attentes que votre entreprise a envers le [fournisseur] pour soutenir l'approvisionnement de la [composante] lui sont communiquées en détail.	1	2	3	4	5	6	7
Les termes de la relation entre votre entreprise et le [fournisseur] pour soutenir l'approvisionnement de la [composante] ont été verbalisés et discutés explicitement.	1	2	3	4	5	6	7

Centralisation des décisions

Comment caractérisez-vous le processus de prise de décisions reliés à l'approvisionnement de la [composante] auprès du [fournisseur].

	Complètement en désaccord						Complètement en accord
Votre entreprise a le dernier mot en ce qui attrait aux activités journalières du [fournisseur].	1	2	3	4	5	6	7
Chaque décision importante prise par le [fournisseur] doit être approuvée par votre entreprise.	1	2	3	4	5	6	7
Dans la relation entre votre entreprise et le [fournisseur], même les décisions mineures, doivent être approuvées par un supérieur d'un ou des deux entreprises.	1	2	3	4	5	6	7
Le [fournisseur] doit demander la permission à votre entreprise avant de faire quoi que ce soit.	1	2	3	4	5	6	7
Le [fournisseur] peut faire très peu de choses par lui-même sans avoir l'approbation de votre entreprise.	1	2	3	4	5	6	7
Votre entreprise prend la grande majorité des décisions qui ont un impact sur le [fournisseur] et ne l'en averti qu'une fois les faits accomplis.	1	2	3	4	5	6	7
Le [fournisseur] est laissé à lui-même pour prendre les décisions journalières.	1	2	3	4	5	6	7

Participation aux décisions

Comment caractérisez-vous la participation du [fournisseur] lors de prise de décisions reliées à l'approvisionnement de la [composante].

.

	Complètement en désaccord						Complètement en accord
Votre entreprise désire avoir l'opinion et demande conseils auprès du [fournisseur].	1	2	3	4	5	6	7
Le [fournisseur] vous aide à établir vos objectifs et vos prévisions.	1	2	3	4	5	6	7
Le [fournisseur] vous aide dans vos activités de planification.	1	2	3	4	5	6	7
Les suggestions du [fournisseur] sont encouragées.	1	2	3	4	5	6	7

Culture commune

Dans le cadre de la relation d'affaires entre votre entreprise et le [fournisseur] pour soutenir

l'approvisionnement de la [composante], votre entreprise et le [fournisseur] :

	Complètement en désaccord						Complètement en accord
... avez des cultures d'entreprise différentes.	1	2	3	4	5	6	7
... avez de la difficulté à comprendre leurs règles d'affaires respectives.	1	2	3	4	5	6	7
...avez des processus de prise de décisions, de résolution de problèmes et de communication différents.	1	2	3	4	5	6	7

Analysabilité de vos tâches

Comment évaluez-vous l'analysabilité (i.e. la mesure dans laquelle il vous est facile d'analyser vos tâches) de vos tâches rattachées à l'approvisionnement de la [composante] auprès du [fournisseur].

	Complètement en désaccord						Complètement en accord
Il existe une façon bien connue de faire la majeure partie du travail que vous devez habituellement accomplir.	1	2	3	4	5	6	7
Il existe un ensemble de connaissances ou de matières bien connues pouvant vous guider dans l'accomplissement de votre travail.	1	2	3	4	5	6	7
Il existe une séquence d'étapes compréhensibles qui peut être suivi lorsque vous faites votre travail.	1	2	3	4	5	6	7
Pour faire votre travail, vous vous appuyez sur des procédures et des pratiques préétablies.	1	2	3	4	5	6	7

Variabilités de vos tâches

Comment évaluez-vous la variabilité de vos tâches rattachées à l'approvisionnement de la [composante] auprès du [fournisseur].

	Complètement en désaccord						**Complètement en accord**
Vos tâches sont les mêmes d'un jour à l'autre.	1	2	3	4	5	6	7
Votre travail est routinier.	1	2	3	4	5	6	7
Vous faites la même tâche de la même façon la plupart du temps.	1	2	3	4	5	6	7
Vos tâches sont répétitives.	1	2	3	4	5	6	7

Section 3 : Utilisation des SIIOs pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]

Systèmes d'Information InterOrganisationnels (SIIOs)

Le tableau ci-dessous contient une liste des différents SIIOs susceptibles de soutenir les activités électroniques d'une entreprise.

Précisez, via des %, l'utilisation de chacun de ces SIIOs par votre entreprise pour soutenir ses activités électroniques reliées à l'approvisionnement de la [composante] chez le [fournisseur]. La somme des % à la fin du tableau doit totaliser 100%.

De plus, indiquez depuis combien de temps (en mois), votre entreprise utilise chacun des SIIOs suivants avec le [fournisseur] pour soutenir l'approvisionnement de la [composante].

	% d'utilisation	**Nombre de mois d'utilisation**
Quel % du temps votre entreprise utilise-t-elle son réseau privé d'échange de documents informatisés (EDI) pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle le réseau privé d'échange de documents informatisés (EDI) du [fournisseur] pour soutenir l'approvisionnement de la [composante]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle son site Web et/ou son extranet (c.-à-d. son intranet auquel vous avez donné accès à votre [fournisseur]) pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle le site Web et/ou l'extranet du [fournisseur] pour soutenir l'approvisionnement de la [composante]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle une place d'affaires électronique sur Internet géré par un intermédiaire spécialisé pour soutenir l'approvisionnement de la [composante] chez le fournisseur?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle une de ses applications non Web (progiciel, progiciel de gestion intégré, progiciel développé à l'interne) connectée au réseau Internet pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle une application non Web (progiciel de gestion intégré, progiciel développé à l'interne) du [fournisseur] connecté au réseau Internet pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle le courrier électronique pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
Quel % du temps votre entreprise utilise-t-elle le télécopieur (via le réseau téléphonique ou Internet) pour soutenir l'approvisionnement de la [composante] chez le [fournisseur]?	_____ %	_____
	Total = 100%	

Activités électroniques

Dans le cadre de votre relation avec le [fournisseur], votre entreprise utilise-t-elle des SIIOs pour soutenir chacune des activités suivantes reliées à l'approvisionnement de la [composante] :

Si oui, indiquer dans quelle proportion du temps vous utilisez les SIIOs pour:
(ex. notre entreprise effectue cette activité à l'aide des SIIOs 30% du temps)

L'entreprise utilise des SIIOs pour :

Prendre connaissance du prix de la [composante] désirée.	☐ Oui ☐ Non	___%
Prendre connaissance des spécifications techniques de la [composante].	☐ Oui ☐ Non	___%
Prendre connaissance des informations reliées à la livraison de la [composante] (ex., transporteur, délai de livraison).	☐ Oui ☐ Non	___%
Inviter le [fournisseur] à participer à un appel d'offres ou soumettre une demande de prix en vue de vous vendre la [composante].	☐ Oui ☐ Non	___%
Recevoir du [fournisseur] une soumission ou proposition de prix en vue de vous vendre la [composante]	☐ Oui ☐ Non	___%
Négocier avec le [fournisseur] les conditions de vente de la [composante] (ex., prix, spécifications, délai de livraison).	☐ Oui ☐ Non	___%
Informer le [fournisseur] qu'il a gagné une soumission ou que sa proposition de prix a été acceptée.	☐ Oui ☐ Non	___%
Passer un ordre d'achat chez le [fournisseur] (inclus achats répétitifs).	☐ Oui ☐ Non	___%
Recevoir une confirmation du [fournisseur] qu'il accepte un ordre d'achat.	☐ Oui ☐ Non	___%
S'informer auprès du [fournisseur] du statut d'un ordre d'achat en cours (ex., en traitement, en rupture de stock).	☐ Oui ☐ Non	___%
Informer le [fournisseur] d'une modification à apporter à un ordre d'achat en cours.	☐ Oui ☐ Non	___%
Échanger avec le [fournisseur] des informations afin de décider du sort et/ou de régler les problèmes reliés à un ordre d'achat en rupture de stock.	☐ Oui ☐ Non	___%
Recevoir une confirmation du [fournisseur] qu'un ordre d'achat a été expédiée.	☐ Oui ☐ Non	___%
Informer le [fournisseur] que certaines [composantes] de l'ordre d'achat n'ont pas passé les tests de qualité.	☐ Oui ☐ Non	___%
Recevoir du [fournisseur] une facture relative à un ordre d'achat	☐ Oui ☐ Non	___%
Payer une facture du [fournisseur] relative à un ordre d'achat	☐ Oui ☐ Non	___%
Échanger avec le [fournisseur] des informations pour justifier et planifier un retour de marchandises.	☐ Oui ☐ Non	___%
Échanger avec le [fournisseur] des informations afin de régler les problèmes pouvant surgir après l'achat de [composantes].	☐ Oui ☐ Non	___%
Connaître l'historique de vos achats de la [composante] fait chez le [fournisseur].	☐ Oui ☐ Non	___%

Recevoir un avis du [fournisseur] que le prix de la [composante] est sujet à changements.	☐ Oui ☐ Non	___%
Recevoir des informations du [fournisseur] sur la ou les pièces pouvant substituer la [composante] achetée.	☐ Oui ☐ Non	___%
Échanger avec le [fournisseur] des informations techniques (p. ex. dessins techniques) en vu d'améliorer la qualité de la [composante].	☐ Oui ☐ Non	___%
Recevoir du [fournisseur] le plan de production de la [composante].	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] le plan de production de votre produit dans lequel (ou de vos produits dans lesquels) s'intègre la [composante].	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] vos prévisions de ventes du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante] pour le prochain mois (court terme).	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] vos prévisions de ventes du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante] pour la prochaine année (long terme).	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] les informations recueillies aux différents points de vente du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante].	☐ Oui ☐ Non	___%
Transmettre au [fournisseur] le détail des promotions à venir sur le produit dans lequel (ou les produits dans lesquels) s'intègre la [composante] (dates, rabais, conditions, etc.).	☐ Oui ☐ Non	___%
Échanger avec le [fournisseur] des informations concernant la planification de la livraison de la [composante].	☐ Oui ☐ Non	___%
Informer le [fournisseur] de votre politique de gestion des inventaires.	☐ Oui ☐ Non	___%
Accéder à l'inventaire de la [composante] du [fournisseur].	☐ Oui ☐ Non	___%
Permettre au [fournisseur] d'accéder à votre inventaire du produit dans lequel (ou des produits dans lesquels) s'intègre la [composante].	☐ Oui ☐ Non	___%

Intégration interne

Précisez comment les données (reçues/envoyées) pour soutenir les activités électroniques de votre entreprise énumérées ci-dessus, sont-elles intégrées aux données des systèmes internes suivants de votre entreprise :

	Manuellement						**Automatiquement**	
Applications reliées aux approvisionnements	1	2	3	4	5	6	7	n/a
Applications manufacturières (ex., MRP, MRPII, MES)	1	2	3	4	5	6	7	n/a
Applications de vente et marketing (ex., CRM)	1	2	3	4	5	6	7	n/a
Applications de logistique et de distribution (inclus les systèmes de gestion des inventaires) (ex., LES)	1	2	3	4	5	6	7	n/a
Applications de comptabilité et de finance	1	2	3	4	5	6	7	n/a
Applications de développement et d'ingénierie des produits (ex., CAD, CAM, PDM/VPDM)	1	2	3	4	5	6	7	n/a

Intégration externe

Au meilleur de vos connaissances, précisez comment les données (reçues/envoyées) pour soutenir les activités électroniques de votre entreprise énumérées ci-dessus, sont-elles intégrées aux données des systèmes internes de votre [fournisseur].

Manuellement 1 2 3 4 5 6 7 **Automatiquement**

Section 4 : Évaluation de votre relation d'affaires avec le [fournisseur] pour l'approvisionnement de la [composante]

Performance opérationnelle

Dans le cadre de vos activités reliées à la l'approvisionnement de la [composante] comment évaluez-vous la performance du [fournisseur] selon les dimensions suivantes :

	Pas très bon(ne)			**Moyen(ne)**			**Très bon(ne)**
Sa flexibilité à adapter son volume de production.	1	2	3	4	5	6	7
Sa flexibilité à adapter sa cédule de production.	1	2	3	4	5	6	7
La ponctualité de ses livraisons.	1	2	3	4	5	6	7
La fiabilité et constance de ses livraisons.	1	2	3	4	5	6	7
La qualité des [composantes] livrées.	1	2	3	4	5	6	7
Le prix des [composantes] vendues.	1	2	3	4	5	6	7

Échange d'information

Dans le cadre de vos activités reliées à l'approvisionnement de la [composante], comment évaluez-vous votre niveau de satisfaction de l'information échangée entre votre entreprise et le [fournisseur] selon les dimensions suivantes :

	Pas très satisfait			**Plus ou moins satisfait**			**Extrêmement satisfait**
Le niveau de détail de l'information	1	2	3	4	5	6	7
Qualité de l'information	1	2	3	4	5	6	7
Quantité d'information	1	2	3	4	5	6	7
La ponctualité de l'information	1	2	3	4	5	6	7
L'utilité de l'information	1	2	3	4	5	6	7
La fiabilité de l'information	1	2	3	4	5	6	7

Satisfaction de la relation

Dans le cadre de vos activités reliées à l'approvisionnement de la [composante], comment évaluez-vous votre niveau de satisfaction de la relation d'affaires entre votre entreprise et le [fournisseur].

Pas très satisfait 1 2 3 4 5 6 7 **Extrêmement satisfait**

Section 5 : Utilisation des SIIOs pour soutenir vos activités interorganisationnelles avec l'ensemble de vos fournisseurs

Utilisation des SIIOs pour soutenir vos activités d'approvisionnement avec l'ensemble de vos fournisseurs

Le tableau ci-dessous contient une liste des différents SIIOs susceptibles de soutenir les activités électroniques d'une entreprise.

Précisez, via des %, avec quel pourcentage de ses fournisseurs votre entreprise utilise-t-elle les SIIOs suivants pour soutenir ses activités d'approvisionnement **(inclus toutes les composantes de tous les produits de votre entreprise).**

De plus, indiquez depuis combien de temps (en mois), votre entreprise utilise chacun de ces SIIOs pour soutenir ses activités d'approvisionnement **(inclus toutes les composantes de tous les produits de votre entreprise).**

	% d'utilisation	**Nombre de mois d'utilisation**
Votre entreprise utilise son réseau privé d'échange de documents informatisés (EDI) pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____
Votre entreprise utilise le réseau privé d'échange de documents informatisés (EDI) de quel % de ses fournisseurs pour soutenir ses activités d'approvisionnement?	_____ %	_____
Votre entreprise utilise son site Web et/ou son extranet (c.-à-d. son intranet auquel vous avez donné accès à vos fournisseurs) pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____
Votre entreprise utilise le site Web et/ou l'extranet de quel % de ses fournisseurs pour soutenir ses activités d'approvisionnement?	_____ %	_____
Votre entreprise utilise une place d'affaires électronique sur Internet géré par un intermédiaire spécialisé pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____
Votre entreprise utilise une de ses applications non Web (progiciel de gestion intégré, progiciel développé à l'interne) connectée au réseau Internet pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____
Votre entreprise utilise une application non Web (progiciel de gestion intégré, progiciel développé à l'interne) connecté au réseau Internet de quel % de ses fournisseurs pour soutenir ses activités d'approvisionnement?	_____ %	_____
Votre entreprise utilise le courrier électronique pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs?	_____ %	_____
Votre entreprise utilise le télécopieur (via le réseau téléphonique ou Internet) pour soutenir ses activités d'approvisionnement avec quel % de ses fournisseurs.	_____ %	_____

Annexe : Définition des différents termes techniques utilisés dans le questionnaire

Applications:
Ensemble de programmes informatiques qui servent à aider un utilisateur à faire un certain travail (source : Office de la langue française du Québec, www.granddictionnaire.com).

Application web : Application pouvant tourner sur un serveur Web (source : Office de la langue française du Québec, www.granddictionnaire.com).

CAD (Computer Aided Design) - Conception assistée par ordinateur :
Discipline ayant recours aux techniques informatiques pour imaginer un objet, en achever la forme et générer les données nécessaires à sa fabrication (source : Office de la langue française du Québec, www.granddictionnaire.com).

CAM (computer-aided manufacturing) - Fabrication assistée par ordinateur :
Fabrication ayant recours aux techniques informatiques qui permettent de générer les paramètres nécessaires à la réalisation d'un objet ou d'un produit et de traiter les données essentielles au fonctionnement des systèmes automatisés utilisés dans les différentes phases de la production de ce même objet ou de ce même produit (source : Office de la langue française du Québec, www.granddictionnaire.com).

Commerce électronique : Le commerce électronique fait tout particulièrement référence à une commande passée sur Internet quel que soit le mode de paiement (source : Statistique Canada, www.statcan.ca).

Courrier électronique : Service de correspondance qui permet l'échange de messages électroniques à travers un réseau informatique (source : Office de la langue française du Québec, www.granddictionnaire.com).

CRM (Customer Relationship Management) – Outils de gestion de la relation client :
Outil informatique développé expressément pour permettre à une entreprise de fidéliser ses clients et d'accroître sa part du marché, en intégrant la gestion des données relatives aux besoins et aux attentes du client, dans le contexte de la vente et des services après-vente, en ligne ou non (source : Office de la langue française du Québec, www.granddictionnaire.com).

EDI (Electronic Date Interchange) - Échange de données informatisées :
Échange entre différentes organisations, de données structurées, directement émises et traitées par des ordinateurs, et dont l'efficacité repose sur l'utilisation de messages préétablis et de procédures normalisées (source : Office de la langue française du Québec, www.granddictionnaire.com).

ERP (Enterprise Resource Planning) - Progiciel de gestion intégré :
Logiciel qui permet de gérer l'ensemble des processus d'une entreprise, en intégrant l'ensemble des fonctions de cette dernière comme la gestion des ressources humaines, la gestion comptable et financière, l'aide à la décision, mais aussi la vente, la distribution, l'approvisionnement, le commerce électronique (source : Office de la langue française du Québec, www.granddictionnaire.com).

Extranet : Réseau informatique sécurisé, généralement constitué d'une partie de l'intranet d'une entreprise ou d'une organisation communiquant à travers le réseau Internet, qui est accessible à une clientèle externe ciblée, devant utiliser un mot de passe. L'Extranet est réservé à un nombre restreint de personnes extérieures à l'entreprise ou à l'organisation, en particulier ses partenaires, ses clients ou fournisseurs. À l'origine, l'Extranet avait un caractère essentiellement commercial. Un Extranet peut être mis en place rapidement par la création d'un site Web commun aux entreprises ou organisations participantes; cependant, celles-ci doivent partager le même type d'équipement (source : Office de la langue française du Québec, www.granddictionnaire.com).

Internet : Réseau informatique mondial constitué d'un ensemble de réseaux nationaux, régionaux et privés, qui sont reliés par le protocole de communication TCP-IP (source : Office de la langue française du Québec, www.granddictionnaire.com).

LES (Logistics Execution System) - Système d'exécution logistique :
Un système d'exécution logistique permet de gérer les informations et les processus impliqués dans toutes les étapes d'une chaîne logistique à partir des matières premières jusqu'à la distribution des produits finis. Le système relie les processus impliqués dans l'approvisionnement, la prise de commande, la production, l'entreposage, la gestion de l'inventaire, l'expédition et les ventes (source : Office de la langue française du Québec, www.granddictionnaire.com).

MES (Manufacturing Execution System) - Système d'exécution de la fabrication :
Système informatisé qui permet d'assurer le suivi, en temps réel, des diverses étapes de la production (source : Office de la langue française du Québec, www.granddictionnaire.com).

MRP (Material Requirement Planning) - Planification des besoins matières :
Méthode de planification et de gestion de l'ensemble des besoins de composants nécessaires à la réalisation du programme directeur de production à partir des nomenclatures et des états de stock de fabrication (source : Office de la langue française du Québec, www.granddictionnaire.com).

MRP2 (Manufacturing Resource Planning) - Planification des ressources de production :
Méthode utilisée pour planifier et contrôler l'ensemble des ressources de l'entreprise
PBCDP est l'abréviation de « planification des besoins en composants et définition des priorités ». Elle englobe le plan de l'entreprise, le plan directeur de production, le plan des besoins en matières, le plan des besoins en capacité et les supports permettant la réalisation efficace et le contrôle (source : Office de la langue française du Québec, www.granddictionnaire.com).

PDM/VPDM (Product Data Management) - Gestion des données produits :
Ensemble complet de systèmes d'information pour gérer toutes les données et fichiers reliés à un produit (source : Office de la langue française du Québec, www.granddictionnaire.com).

Place d'affaires électronique : Plateforme Internet destinée au commerce interentreprises, qui facilite les échanges entre plusieurs acheteurs et vendeurs d'un même secteur d'activité ou de différents secteurs, en vue de collaborer, de négocier et de conclure des transactions à valeur ajoutée, pour des biens et services de production ou de fonctionnement (source : Office de la langue française du Québec, www.granddictionnaire.com).

Réseau téléphonique : Réseau basé sur l'utilisation des techniques téléphoniques pour acheminer les données (source : Office de la langue française du Québec, www.granddictionnaire.com).

SIIO (Système d'information interorganisationnel):
Système d'information informatisé qui est partagé par deux ou plusieurs organisations ou entreprises, et qui, relié ainsi en réseau, permet d'améliorer leur fonction commerciale commune (source : Office de la langue française du Québec, www.granddictionnaire.com).
L'échange de données informatisées [EDI] est probablement la technologie la plus connue permettant l'échange de données entre partenaires d'affaires. Toutefois, dans le contexte actuel de la nouvelle économie numérique, de plus en plus d'entreprises privilégient l'utilisation d'applications Web et du réseau Internet pour communiquer et échanger de l'information avec leurs partenaires d'affaires.

SRM (Supplier Relationship Management) – Outils de gestion de la relation fournisseur:
Outil informatique développé expressément pour permettre à une entreprise d'améliorer la communication avec ses différents fournisseurs, de partager une méthodologie, des termes métiers et des informations avec eux et d'avoir une meilleure connaissance de chacun d'entre-eux afin d'optimiser le processus d'approvisionnement. À l'inverse, il s'agit également de faire en sorte que les fournisseurs connaissent mieux le cœur de métier de l'entreprise et ses différents produits afin d'obtenir un approvisionnement adapté (source : Comment Ça Marche, www.commentcamarche.net).

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