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An Exploratory Study for Collaborative Relations in Supply Chains

by

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A thesis presented in fulfilment of the requirements for the degree of Doctor of Philosophy

2010

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ACKNOWLEDGEMENTS

I would like to thank all those who contributed suggestions, inspiration, and cases to this research. Thanks to all University of Strathclyde staff, Department of Design, Manufacture and Engineering Management, who have given me a good, comfortable and well equipped environment to complete this thesis. I would like to thank the Arab Academy for Science and Technology for funding this research study. Also, many thanks to industrial dyads in case study companies.

I would like to express my sincere appreciation to my supervisor, Prof. Umit Bititci, even though this gesture is inadequate to measure my appreciation. I am deeply indebted to him for his friendly assistance, expert guidance, constructive criticism, careful reviews, and close supervision through out all the steps taken to fulfil this work. He has been very supportive during all my years as a doctoral student.

Special thanks are due to my second supervisor Dr. Kepa Mendibil for his valuable and helpful comments. I would like to express my deep appreciation to Dr. Aylin Ates, University of Strathclyde, for her valuable suggestions.

I would also like to express my thanks and appreciation to my friend Dr. Ashraf Labib, Dean of Industry Service Center, AAST, for being a constant source of encouragement all over the years as well as my colleague and friend at the Arab Academy for Science & Technology, Magdy Khalaf, who has given me valuable feedback on my thesis.

My deep thanks and gratitude to my father, Yehia El Mokadem whom have given me extensive feedback on my thesis and have always provided much encouragement, support and guidance.

Last, but not least, I am grateful to my wife, Nayra for her love patience and encouragement all over the years.

April 2010

Mohamed El Mokadem

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Abstract:

Nowadays, organizations are operating in a highly dynamic environment that is changing at an accelerating rate. It is widely accepted that the competitive landscape has pushed organizations to compete not solely with their own capabilities, but with the entire supply chain capabilities. Collaboration as a business practice that aims to synchronize supply chain processes has been widely recognized as an effective restructuring organization's strategies to build and sustain a competitive advantage.

Despite many organizational efforts to realize collaboration benefits, supply chain collaboration has proved difficult to implement and the majority of collaborative relations failed to reach the set targets. Hence, this research aims to discuss collaborative relations and the factors that affect its formation and depth in supply chains context. Earlier studies identified that potential returns, commitment, trust, collaborative culture and market dynamics play significant role in collaborative ventures. However, there is a lack of consensus among previous researches on the effect of power and innovation over collaborative relations. This study contends that these factors coupled with the market dynamics play significant role in collaborative relations intensity. To better understand collaborative relations, this research is proposing two new constructs; "Collaborative potential" and "Collaborative intensity". The research explores the relevant literature around these two constructs and develops a conceptual model that draws the interrelations between the different factors that affect collaborative potential and intensity. A case study approach based on dyads is adopted using semi-structured interview technique to investigate collaborative relations and consequently further develop the model to its final form.

The research proved the validity of the collaborative potential and collaborative intensity constructs. In addition, the study concludes that power differences and innovation plays significant role in determining the depth of partners' integration in collaborative relations. The complex relationship between the potentiality and intensity factors plays significant role in determining the optimum relation intensity in collaborative ventures.

Finally, it could be identified that the in-depth investigation into the dynamics of collaborative relations could counteract the criticism of using only five cases to substantiate the study findings.

1. Overview:

Nowadays, enterprises are operating in a highly competitive environment with no boundary limits (Yih Wu et al, 2004). Market globalizations, WTO regulations and scientific/technological innovation in diverse fields placed major challenges on different organizations. Consumer demands for better service levels are rising (Attaran and Attaran, 2007) and responding quickly to satisfy customer needs becomes a major concern for all business firms (Yih Wu, et al, 2004; Spekman et al, 1998). Forced by the market pressures of globalization and enhanced competition, many companies have decided to look beyond the walls of their organizations (Bagchi and Larsen, 2002).

As Christopher (1998) proposed cited in Barratt and Oliveira (2001) "today's business is increasingly "boundary-less", meaning that internal functional barriers are being eroded in favor of horizontal process management and externally the separation between vendors, distributors, customers and the firm is gradually lessening". Business-to-business exchange literature has, over the last 20 years, focused on the move from arm's length dealings to partnering and from adversarial to relational exchange (Hingley, 2005 B; Golicic et al, 2003). It is widely accepted nowadays that in the new millennium, competition will be between value chains, which efficiently and effectively integrate their competencies and resources in order to compete in the global economy (Bititci et al. 2007; Bititci et al, 2003; Sahay, 2003; Horvath, 2001). The complexities of today's organizational environment suggest that effective management must be applied not only within organizations, but also to inter-organizational relationships (Huxham and Macdonald, 1992; Spekman et al, 1998). The competitive pressures brought about by globalizing trends as well as the increase in customer expectations have forced organizations to ensure that their resources are well aligned not only across all functional areas but also through the entire supply chain (Vachon et al, 2009).

Supply chain business model, being as a new paradigm shift in business relations, extends one's appreciation for the concepts of cooperation. It involves the strategic process of coordination between firms within the supply chain to competitively deliver a product or service to the ultimate customer (Benton and Maloni, 2004). The supply chain management concept focuses on the integration of supply chain members through developing close working relationships (Valsamakis and Groves, 1996).

However, supply chain integration is, to a large extent, still only a promise and many companies who started collaborative programs did not get very far (Boddy et al, 1998). Significant barriers, in terms of the ability of firms to build collaborative relationships, still stand between organizations and their goals of supply chain integration (Barratt and Oliveira, 2001). Consequently, this research aims to better understand the factors that affect collaborative relations formation with the aim of providing better opportunity for collaborative ventures success.

1.1 Author background

This research project aims to explore collaborative relations formation and the different factors that affect the formation process in a supply chain context. The motivation for this research emanates from the researcher's previous working experience with industrial firms as an Engineering Management consultant. The researcher graduated from the College of Engineering 10 years ago and since then has worked in the field of academia and consultation. Being an industrial consultant directed thoughts and interests towards the different business improvement models and frameworks and its relation with business success and continuation. The effort of firms to reduce cost, and be competitive in this contested world, highlighted the importance of such models and the implementation of new ways and methods that provide better opportunity for firms to compete. The researcher's professional experience, whilst working closely with industry on consultation projects, and the experience obtained during the Master's degree in Engineering Management, led to some interest in supply chain management as a business practice that provides benefits to supply chain members.

1.2 Thesis Structure:

Each chapter of this thesis starts with an introduction that specifies the aim behind the chapter. At the end of each chapter, there is a summary of what was achieved in that chapter. Generally, the thesis is structured in eight chapters, which are introduced below:

Chapter 2 Background study: This chapter introduces the research area and identifies why the topic is important to study. Through initial literature review and some unstructured interviews with some practitioners around supply chains, the chapter will introduce two different constructs; collaborative potential and collaborative intensity. In addition, the chapter will specify two main research questions to be further explored in the next chapter.

Chapter 3 Literature review: A systematic review for the collaboration literature around the two constructs will be performed, from which the conceptual model is developed and detailed research questions are generated.

Chapter 4 Research methodology: This chapter aims to review the methodology literature, the different research paradigms, the associated philosophical positions and the different research strategies. The chapter will take the reader step by step to justify the philosophical paradigm of this research. Finally, the chapter identifies and justifies the selection of case-study research as the appropriate strategy for this research.

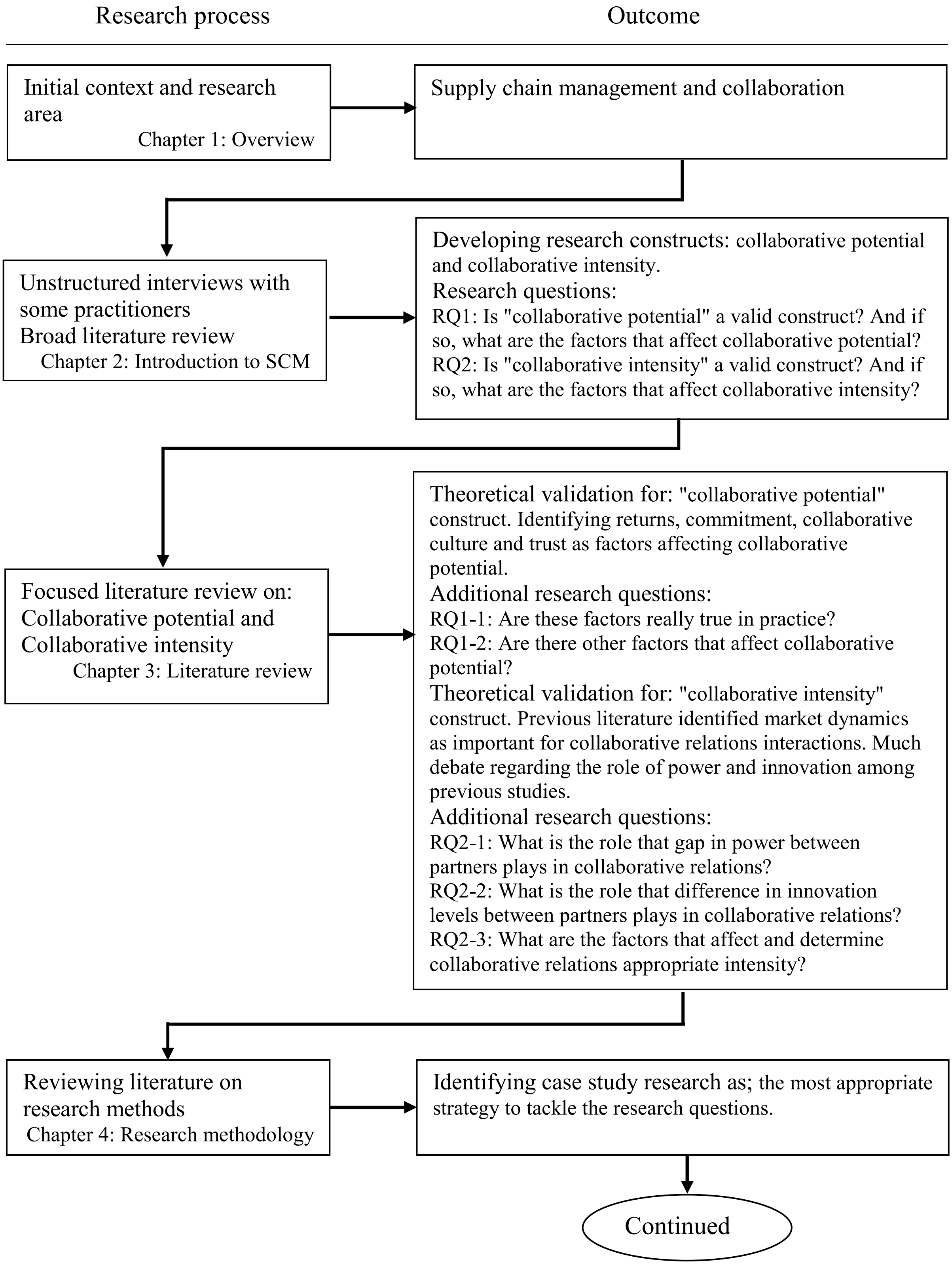
Chapter 5 Case study design: This chapter aims at specifying the underlying research design including case selection, data collection and data analysis. In addition, methods to assess research quality in case-study research are explored.

Chapter 6 Empirical findings (within-case analysis): This chapter aims to present the analyzed data collected from the case studies to show the findings from each case dyad.

Chapter 7 Empirical findings (cross-case analysis): Presentation of the analyzed data from comparing the findings of the different cases through which answers to the research questions will be provided. The chapter will then present a discussion on the findings from the cross-case analysis.

Chapter 8 Discussion: This chapter will present a summary of the key conclusions that can be drawn from this research. It also provides a discussion on the limitations of the research. The implications this work has for theory and the recommended future work will be examined in detail with some future recommendations being posed. The implications for practice are also considered in this chapter.

Figure 1-1 will provide a brief description for the different research processes and the associated outcomes.



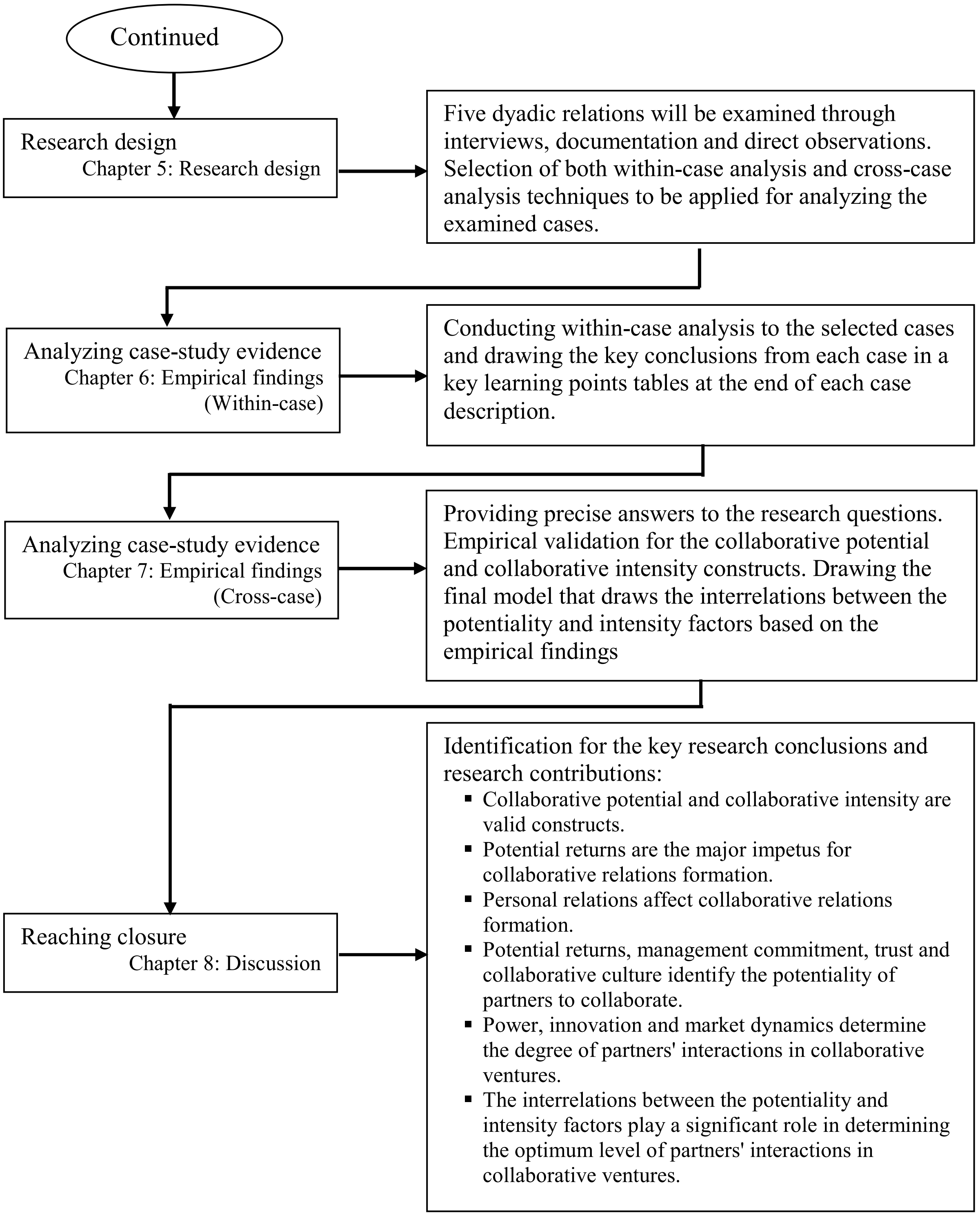


Figure 1-1 Description for the different research processes and the associated outcomes

2. Introduction to Supply Chain Management:

Supply chain management had become a subject for increasing concern to academics, consultants and practitioners (Scott and Westbrook, 1992). The globalization of competition mandates pursuing cooperative arrangements between supply chain partners (Ellram, 1991). Traditionally, both upstream and downstream portions of the supply chain have interacted as disconnected entities (Lambert and Cooper, 2000). However, it is agreed that supplier-customer relationship must extend beyond short-term considerations which are purely commercial in nature to one which embraces strategic and policy matters for the partners concerned (Lamming, 1986).

Nowadays, organizations are operating in a highly competitive environment with no boundary limits (Simatupang and Sridharan, 2004). The emerging competitive environment highlights that the ultimate success depend on firms' ability to integrate its processes with its business partners (Lambert and Cooper, 2000; Wilding and Humphries, 2006).

Managing supply chain as an entity can help create a competitive advantage and provides greater profitability for all participants (Cooper and Ellram, 1993). Individual firms no longer compete as solely autonomous entities, but rather as supply chains (Lambert and Cooper, 2000).

In that sense, many companies are reorganizing their value chains and focusing on a few core activities, where they can achieve and maintain a long-term competitive advantage, while outsourcing all other activities in which they do not have a world class status (Van weele and Rozemeijer, 1996). Successful SCM requires a change from managing individual functions to integrating activities into key supply chain processes (Lambert and Cooper, 2000). It becomes more than essential to integrate with partners that provide a set of value adding attributes and capabilities to enable both parties to gain a competitive advantage (Cousins and Spekman, 2003).

To summarize, it should be noted that markets globalization and the current severe competition are causing suppliers, manufacturers, wholesalers and retailers alike to rethink their strategic postures with their supply chain partners (Stank et al, 1999; Barratt and Oliveira, 2001; Gunasekaran et al, 2004; Fassoula, 2006) and strengthen their competitive advantage through collaboration (Simatupang and Sridharan, 2004).

But what is supply chain and what is supply chain management. Supply chain is defined as a system of interactions between suppliers, manufacturers, distributors, retailers and customers in which material, financial and information flows connect participants in both directions (Fiala, 2004).

Supply chain management concepts emphasizes the need to co-ordinate and synchronize all the activities that create value for customers and are performed across the supply chain, in order to achieve high levels of customer service in a cost-effective way (Valsamakis and Groves, 1996). It implies the efficient management of the chain and is identified as the management of multiple relationships across the supply chain. Supply chain management aims at total business process excellence in terms of integrating and managing key business process across the supply chain (Cooper et al, 1997). Hence it allows firms to capture the synergy of intra and inter organizational integration (Lambert and Cooper, 2000).

Although supply chain business relations between partners have the potential to offer significant improvements in partners' performance, 70 % of collaborative supply chains fail (kanter, 1990). There are, in practice, few examples of truly integrated supply chains (Tan et al, 1999). Several applications of supply chain integration fail to achieve the objectives set (Maloni and Benton, 1997; Huxham and Vangen, 2000) and generally, supply chain integration has proven difficult to implement (Barratt, 2004). This suggests and identifies that our knowledge of collaborative supply chain business relations is quite limited (Nummela, 2003). Further studies are necessary to provide clarity and guidance for firms wishing to motivate joint action with their partners (Hausman and Johnston, 2009).

Trying to understand why, how and when supply chain collaborative initiatives prosper is of important consideration not only for academics but also for practitioners who face the challenge of making supply chain collaboration promises a reality.

At this point, it may be valuable to examine practitioners' perspectives about supply chain business relations. This was done through conducting some preliminary interviews with some practitioners in the area of supply chain. In fact, the interviews took the form of unstructured conversations rather than being formal structured or semi-structured interviews. These conversations aimed to explore the area of supply chain and to identify the problems facing organizations in initiating/managing their supply chain business relations.

2.1 Practitioners' perspectives:

As mentioned, the researcher conducted exploratory unstructured conversations with some industry practitioners to better understand the problems that companies face when developing close supply chain business relations.

The conversations were conducted in September 2007 with some key managers in two different companies; a multinational consumer goods company and a small Egyptian pharmaceutical company. The supply chain director and the purchasing manager in the multinational company were interviewed, whereas the sales and marketing manager and the purchasing manager in the pharmaceutical company were interviewed.

Typically, the conversations were guided by the desire to understand how supply chain relations are formed, the motives for companies to initiate close and open business relations and the problems facing companies to maintain their supply chain relations with their customers/suppliers. Several issues were raised during the discussions, the most important of which were:

- How do companies manage their relations with customers/suppliers?
- What are the reasons for developing close business relations with supply chain partners? What are the advantages/drawbacks of having close relations with customers/suppliers?
- Which type of relation (traditional vs. close) provides better business results? What are the factors that affect the continuity of close relations with supply chain partners?
- What are the problems and barriers that companies face when managing supply chain relations?
- What are the factors that affect companies' decisions in determining the nature and extent of their relations with customers/suppliers?
- How do companies share information with customers/suppliers? What are the factors that affect the decision of the extent of information exchange?

- What are the cultural problems companies usually face when dealing with customers/suppliers?

These conversations led to some initial thoughts about supply chain business relations. Both interviewed companies highlighted the importance of realizing benefits from cooperative relations, otherwise close relations will be invaluable.

However, it could be identified that the multinational company manager's perception about supply chain business relations differs from that of the small Egyptian company. Managers in the multinational company showed a high degree of acknowledgment to the role of customers/suppliers in achieving better business results. They identified that a culture that supports cooperation provides the platform for initiating cooperative arrangements with supply chain partners. This reflects the role of the company's culture in acknowledging the importance of having supply chain close business relations.

Lack of trust between customers/suppliers is another feature that differentiates between the multinational company and the pharmaceutical company. The absence of trust was identified by the pharmaceutical company managers as a major factor that impedes close supply chain relations. Nevertheless, both companies' representatives acknowledged the role of trust in mediating cooperation between supply chain partners.

All interviewed managers acknowledged that management commitment is essential for building effective supply chain business relations. They identified that commitment provides suitable grounds for close supply chain relations with partners and is considered the first step for cooperative arrangements.

Finally, managers in the multinational company referred to their size, the amount of business and the availability of alternatives as important factors in convincing their suppliers/customers to undertake close supply chain business relations as well as determining the degree of interaction with them. This reflects the role of power, dependence and market conditions over supply chain relations.

Based on these exploratory conversations, we can conclude that practitioners' interviews provided valuable insights over supply chain business relations. The interviewees referred to mutual gains as the main driver for undertaking close business relation with supply chain partners. In addition, they referred to management commitment, trust and collaborative culture as essential platforms for successful supply chain relationships.

Besides, the degree of dependency between partners and the availability of alternatives were identified as important factor in establishing close relationships as well as determining the extent of interaction between supply chain partners.

It could be concluded that practitioners view their supply chain business relations from two different perspectives. First, the expected gains from establishing close supply chain business relations as well as the presence of suitable platform to establish such a relation. Second, the extent of cooperation with their supply chain partners.

At this point, it was deemed valuable to be engaged in some initial literature review around supply chains to explore and better understand; what exactly supply chains are, what are the building blocks for supply chains, how relations are formed and maintained, what are the bridges for effective supply chains.

2.2 Initial literature review:

Supply chain management is the connected series of activities which is concerned with planning, coordinating and controlling materials, parts and finished goods flow from suppliers to the customers (Stevens, 1989). The Global Supply Chain Forum (CSCF) put forward by Lambert and Cooper (2000) defined supply chain management as: *the integration of key business processes from end user through original suppliers that provides products, services and information that add value for customers and other stakeholders.*

The term supply chain management was originally introduced by consultants in the early 1980s and since then had received much attention. In the early 1990s, academics started to describe SCM from a theoretical standpoint to clarify the difference from more traditional approaches to managing the flow of materials and the associated flow of information (Cooper et al, 1997). Generally, supply chain management looks across the entire channel, rather than the next entity or level (Cooper and Ellram, 1993).

The development of partnerships along the supply chain is becoming an increasingly important concept in the supply chain literature and in industrial practices (Valsamakis and Groves, 1996). The driving force behind SCM is enlightened by the recognition that sub-optimization occurs if each organization in the supply chain attempts to optimize its own results rather than to integrate its activities with other chain members to optimize the results of the overall chain (Cooper et al, 1997). However, it should be highlighted that the integration of business processes across company boundaries will be successful only if its makes sense from each companies perspective (Lambert and Cooper, 2000).

Lamming et al (2000) identified that the research on industrial networks conducted by the Industrial Marketing and Purchasing Group (IMP) have influenced the understanding of the concept of supply chain inter-firm relationships. Researchers within the IMP group developed explanations to provide a better understanding of buyer-supplier relationships. For example, Ford and Hakansoon (2006) identified that relationship in buyer-supplier relations is an important structural dimension for firms. Limitations in organizational resources mean that a company is dependent on those with which it has relations. They highlighted that several presentations at IMP conferences referred to relationships as a managerial technique, where companies can choose when and how to adopt.

In general, Zailani and Rajagopal (2005) highlighted that the most successful manufacturers have carefully linked their processes to external partners in the supply chain. The dominant logic in supply chain relationships paints a picture of tightly-linked, two-way interacting collaborative firms in long-term relationships (Hausman and Johnston, 2009).

The high failure rates in supply chain business relations was identified by several authors (Maloni and Benton, 1997; Barratt, 2004; Bititci et al, 2007) suggesting that further investigation is needed to better understand supply chains and determine the factors that affect supply chain relationships.

In recent years, several paradigms, frameworks and models were developed and used by academics to understand why some collaborative supply chains create value while others fail (Fawcett et al, 2008). Yih Wu et al (2004) highlighted that there are still very few studies that integrate through framework and demonstrate, empirically the determinants of supply chain collaboration. Zhao et al (2008) suggested that our knowledge of what influences supply chain integration is still very limited. It seems important to explore supply chain business relations and to try to understand the factors that affect supply chain integration and its success.

The interaction model, developed by the IMP group, deal with various issues pertaining to buyer-seller relationships. The model focuses on the factors which lead to close relationships between buyers and sellers (Metcalf et al, 1992; Wynstra et al, 2006). In his work to operationalize the constructs set forth by the model, Metcalf et al (1992) identified that the development of close relationships between buyers and sellers is a function of three basic processes; exchange (product exchange, information exchange and social exchange), cooperation and adaptation (the extent to which the buyer and seller make substantial investments in the relationship). He identified that the information and social exchange between partners nurture cooperative behavior and nurtures trust between buyers and sellers. He further added that cooperation along with the product exchange leads to further commitment to the relationship and encourages partners to engage in joint efforts, make adaptations and establish transaction specific investments.

To better understand SCM, Cooper et al (1997) developed a framework with the aim of expanding and conceptualizing the understanding of SCM as well as its interrelated nature. The framework consists of three major related elements; business processes, management components and the structure of the supply chain. Business processes refer to the activities that produce specific output of value to the customer. The management components are the managerial variables by which the business processes are integrated and managed across the supply chain while the supply chain structure consists of the member firms and the link between these firms.

The work of Bititci et al (2007) provides useful insights for further exploration of how collaborative relations are formed and maintained. It provides a broad framework covering strategic, operational, cultural and contractual issues along collaborative supply chains. In their work, they developed the synergy model with the aim of understanding the reasons behind the high failure rates of collaborative ventures and thereby developing collaboration-readiness assessment to increase the chances of success for future collaborative enterprises.

In general, it could be identified that previous studies acknowledged the importance of shared returns, commitment, trust and culture for collaborating venture formation and continuation (Metcalf et al, 1992; Cooper et al, 1997; Batt and Purchase, 2004; Bititci et al, 2007; Duffy, 2008)

The notion of economic returns is central in collaborative supply chain business relations. Economists examined conditions, such as economies of scale and the availability of suitable outside services, under which functions should be vertically integrated or should be outsourced (Cooper and Ellram, 1993).

Williamson (1979) highlighted the importance of the economizing properties of alternative institutional modes for organizing transactions. However, he identified that several organizations mediated transactions in favor to vertical integration.

Coase (1998) identified that improving productivity depends on specialization which is only possible if there is exchange. He added that the lower the costs of exchange, the more specialization there will be and the greater the productivity of the system. The costs of coordination within a firm and the level of transaction costs that it faces are affected by its ability to purchase inputs from other firms, and their ability to supply these inputs depends on their costs of coordination and the level of transaction costs that they face (Coase, 1998). In general, firms' choice to a particular relationship structure much depends on their desire to minimize transaction costs (Golicic and Mentzer, 2005).

Cooperative arrangements are time consuming and are not necessarily suitable for all business relations (Ellram, 1991). Hence, supply chain collaborative relations should not be entered into without considering potential benefits (Cooper and Ellram, 1993). In the same vein, Golicic and Mentzer (2005) highlighted the importance of expected benefits for a trading partner to be engaged in collaborative relation.

It should be highlighted that the key strategic returns for a firm pursuing collaborative approaches are not restricted to mere cost reduction, but extends to include quality improvements and improved time to market (Cousins and Spekman, 1993).

It is contended that the potential returns provide good opportunity for partners to undertake close supply chain relations. Without mutual gains, there will be no need or desire from partners for collaboration to exist (Ellram, 1991). It could be identified that the higher the potential gains from close supply chain relations, the higher the opportunity to collaborate.

Previous studies identified that partners cannot realize this opportunity until they are ready (Bititci et al, 2007) and able to build effective bridges and overcome barriers to reach successful collaborative business relations (Fawcett et al, 2008).

It should be noted that the presence of collaborative opportunity (potential returns) triggers top management commitment. It triggers partners' desire to mitigate traditional business relations and pursue more collaborative supply chains business relations (Cooper and Ellram, 1993). It should be highlighted that minimizing transaction costs along with other non-financial benefits allows for positive relational performance which in turn reinforces top management to be committed to undertake cooperative arrangements.

Cooperative arrangements must be built on mutual trust and supportive cultures with a strong commitment by partners to make the relationship work (Ellram, 1991). In the same vein, Claassen et al (2008) highlighted the importance of commitment, trust and openness for collaborative work to succeed.

Hence, the presence of commitment to collaborate, acceptable levels of trust and supportive collaborative culture in a dyad indicates the readiness and the degree of preparedness of partners to exploit that opportunity, hence turning this collaborative opportunity into collaborative reality. It could be identified that the presence of an opportunity, coupled with a certain degree of preparedness and readiness affects partners' potential to collaborate and put partners in a position of being potential candidates for collaboration.

Several studies identified that, through collaboration, companies aim to share resources, share and exchange information (Barratt, 2004), reduce risks, reduce cost, reduce time-to-market (Fawcett et al, 2008), reduce delivery time, increase marketshare, increase asset utilization (Duffy, 2008), increase skills and knowledge, increase customer services (Whipple and Russell, 2007), and so on. It is widely acknowledged that collaborative relations require a high degree of openness to share information and undertake joint activities and joint planning. However there are different levels of interactions and intensities to supply chain relations (Valsamakis and Groves, 1996; Golicic et al, 2003; Whipple et al, 2009). Several studies provided different classifications to customer-buyer business relations according to the degree of interaction between partners (Williamson, 1979 and Cooper et al, 1997).

Williamson (1979) highlighted three different classifications for business relationships; classical, neoclassical and relational categories. The classical category attempts to enhance discreteness while intensifying presentiation (efforts to perceive and realize future events in present). Contracts under classical category specify all relevant future contingences pertaining to the supply of good or service are described and discounted with respect to both likelihood and futurity. Any disputes should arise should be handled by legal rules and formal documents.

The neoclassical category covers long-term business relations executed under conditions of uncertainty. Contracts under the neoclassical category provide additional governance structure than contracts under the classical category. Neoclassical contracts encourages the participation of third parties to resolve disputes should it arise.

In the relational category, the fiction of discreetness is fully displaced as the relations takes on the properties of a mini-society with a vast array of norms beyond those centered on the exchange and its immediate processes. The presence or absence of contracts under the relational category has minimal effect as the reference point under a truly relational category is the entire relation as it has developed.

Cooper et al (1997) identified that the closeness of integration between partners differ from a point to another across the supply chain based on the importance of the relation and the firms' capabilities. Lambert and Cooper (2000) highlighted that not all links throughout the supply chain should be closely coordinated and integrated. The level of integration and management of a business process link is a function of the number and level of management components added to the link. They identified four different types of integration between members of a supply chain; managed business process links, monitored business process links, not-managed business process links and non-member business process links.

From the preceding discussion, it seems that supply chain business relations vary in intensities. However, it is important for collaborating firms to understand the suitable level of their interaction, the extent of their interaction, what to share and what not?

Cooper and Ellram (1993) highlighted that the presence of a focal supply chain company to act as a channel leadership is central for supply chain collaborative arrangements to succeed. Yet, it was highlighted by Lambert and Cooper (2000) that some chain members may take the view of being the focal company and hence view the membership and network structure differently. It is essential that collaborating firms identify the chains' champion to resolve any potential conflict between collaborating firms and determine the relations' intensity. This argument begs the question of who manages whom, who coordinates what, and how coordination and integration are maintained (Power, 2005). In that sense, a deeper understanding is important to realize who is responsible for identifying the relation depth of interaction? Who determines what to collaborate over and what not? Several questions arise when discussing partners' levels of interaction.

Some studies discussed the role that power and influencing strategies, market dynamics and critical information exchange might have over collaborative relations and the magnitude of partners' interaction (Yih Wu et al, 2004; Benton and Maloni, 2004).

It could be identified that there is much debate among previous studies regarding the role of power differences over collaborative relations (Hausman and Johnston, 2009). In addition, few studies handled the effect of innovation over collaborative arrangements (Larsen, 2006). Mikkola and Larsen (2006) highlighted that there is very little literature available that proposes a generic and comprehensive framework for supplier involvement in new product development and the extent of involvement in sharing new design information. Some studies acknowledged the role of market dynamics over the extent of interaction between collaborating firms (Yih Wu et al, 2004).

It is contended by this research that these factors are major players in determining the depth and intensity of collaborative relations.

2.3 Discussion and conclusions:

In conclusion, based on the exploratory unstructured conversations with some practitioners and the initial literature review, it appears now that there are a number of fundamental concepts that underpin collaborative relationships in supply chain management. First, partners should get a benefit and collaborative returns should be shared among collaborating firms (Cooper and Ellram, 1993; Golicic and Mentzer, 2005; Ellram, 1991). Second, partners have to be ready to participate culturally and mentally through the presence of commitment, trust and supportive culture (Claassen et al, 2008; Ellram, 1991). This leads to the first emerged research construct; collaborative potential.

Collaborative potential is a combination of collaborative opportunity, (i.e. potential benefits partners will gain from collaboration) and collaborative readiness, (i.e. their preparedness to exploit that opportunity). Hence, this leads to the first broad research question:

> ***RQ1:*** *is "collaborative potential" a valid construct? And if so, what are the factors that affect collaborative potential?*

Besides, it seems that there are number of factors that affect the level of intensity of collaborative relations. These factors may determine whether it is more appropriate to have greater or lower degree of interaction between collaborating partners. Although several studies highlighted the effect of market dynamics over collaboration intensity (Yih Wu et al, 2004), there seems to be much debate about the role of power as well as scarcity in studies discussing the effect of innovation over collaboration (Benton and Maloni, 2004; Larsen, 2006; Mikkola and Larsen, 2006; Hausman and Johnston, 2009). It seems that collaborative intensity is a factor of power, innovation and market dynamics. This leads to the second emergent research construct; collaborative intensity.

Collaborative intensity is the depth and degree of partners' interactions in collaborative ventures. This leads to the second broad research question:

> ***RQ2:*** *is "collaborative intensity" a valid construct? And if so, what are the factors that affect collaborative intensity?*

Following the interviews and the initial literature review, it was deemed important to engage in some in-depth literature review around these constructs and questions to explore and identify how literature discusses these two areas in greater detail.

3. Collaborative Supply chains

This chapter aims to explore the literature around the two constructs identified earlier in chapter two. The first construct discusses the collaborative potential of partners to collaborate while the second construct is about collaborative intensity of their collaboration. It is highlighted earlier in the previous chapter that **Collaborative potential** is a combination of *collaborative opportunity*, i.e. potential gains from collaboration and *collaborative readiness*, i.e. the preparedness of partners to exploit that opportunity while **Collaborative intensity** is the depth and degree of partners' interactions in their actual collaborative venture.

A literature review informed by Tranfield et al (2003) was adopted for the research into existing work on collaborative relations. The focus of the literature search was based on ***exploring the two constructs; collaborative potential and collaborative intensity as well as answering the questions raised before in chapter two.***

Looking at supply chain management text books and journal papers, the researcher investigated the different theoretical frameworks to study how collaborative relations in supply chains are formed and the main factors that affect the success or failure of their formation as well as the factors that determine the degree of interaction between supply chain partners. This means that the researcher will investigate supply chain literature from collaboration perspective and collaboration literature from supply chain perspective. Specific management databases, such as Web of Knowledge, Emerald Insight, ABI Inform and Science Direct, were investigated to identify articles published discussing supply chain collaborative relations.

A number of journals, addressing a broad range of supply chain management and inter-firm collaborative relations articles, were chosen. These include; Supply Chain Management International Journal, International Journal of Physical Distribution & Logistics Management, Industrial Marketing Management Journal, Journal of Purchasing and Supply Chain and European Journal of Purchasing and Supply Management.

Initial key word searches were performed using terms such as “collaborative supply chains”, “supply chain collaboration” and “collaborative business relations”. These search strings identified more than 25,000 articles in total. An initial study of this literature led to the conclusion that, although a large number of articles do match the search strings as defined above, the contents of these articles were in very few instances specific to collaborative supply chain formation process as described above. More commonly the results returned articles that focused on specific topics, such as “*managing **collaborative** networks” or “impact of **supply chain management** on performance” or* “*information technology and **supply chain management”***. Consequently, a further survey of the literature was conducted by narrowing down this search to include only those articles that discuss the factors that affect collaborative relations formation and depth of interaction.

Through the review, the researcher identified the following broad headings to organize the literature review. It is important to note that this classification is exclusive to this research and was considered as useful to fulfill the research objective. This classification is not to suggest that literature should be classified in this way. The classification is organized as follows:

- Supply chain collaboration – it provides an overview on collaboration within supply chains and generally is concerned with issues such as definition of collaboration and benefits of collaborative business relations.
- Collaborative potential – generally concerned with how collaborative relations are formed, the motive and expected returns for undertaking close business relations, the factors that put partners in a position as ready to collaborate; management commitment, trust relations and collaborative culture.
- Collaborative intensity – under this heading, the different factors that affect the depth of the relation and the degree of partners' interaction will be discussed. This includes power relation, nature of market dynamics and innovation or the exchange of critical information. In addition, the different tools, models and frameworks that discuss partners' interaction will be identified.

- Factors interrelations – this section will highlight the different interrelations between the factors that affect the potentiality of partners to collaborate and the factors that affect the intensity of partners' interaction.

In conclusion, by the end of the literature review, this research presents a conceptual framework drawing together the relations between potentiality and intensity factors, and their interrelations, as well as their interaction with partners' collaborative potential and collaborative intensity. In the following sections, a detailed exploration of the literature under the previous headings will be presented.

3.1 Supply chain collaboration

Collaboration means seeking mutual benefits (Parung and Bititci, 2006) and working together towards a common aim (Bititci et al, 2004). It occurs when two or more independent companies work jointly to plan and execute supply chain operations with greater success than when acting in isolation (Huxham and Macdonald, 1992; Simatupang and Sridharan, 2004; Vangen and Huxham, 2006). Veludo et al (2006) identified that the concept of joint work is central to collaborative relations resulting in an interpenetration of organizational boundaries. The idea of collaboration resides on partners moving away from the concept of discrete, arms-length dealings and embracing cooperative and collaborative views whilst managing their supply chain inter-relationships. Spekman and Carraway (2006) described collaborative buyer-seller relationships as:

> *"Partners think in terms of we instead of me"*

Lozano (2007) identified that collaborative approaches can help build stronger and more sustainable organizations. Collaborative initiatives between supply chain partners can remove significant wastes from the supply chain (Boddy et al, 1998) and offer the potential for competitive advantage through inter-firm integration (Whipple et al, 2009). It is widely recognized that different kinds of resources are scattered within various companies. Collaborative relationships can allow access to a wide range of technologies, resources, expertise and knowledge (Wanger et al, 2002). It allows pooling partner's resources (Nummela, 2003), hence acting as a medium for creating and sustaining a competitive advantage (Fawcett et al, 2008). The following are the most common definitions of collaboration:

- Joining of power between two or more companies from the same or different countries in order to implement a particular operation (Bititci et al, 2007).
- A distinct mode of organizing with a positive, purposive relationship between organizations that retain autonomy, integrity, and distinct identity, and at the same time, the possibility to withdraw from the relationship (Bititci et al, 2004).
- A long term relationship, reflecting an ongoing process of cooperation (Morgan and Hunt, 1994).
- An attempt to build close, long-term connection between organizations which are distinct, but which sees benefits in working closely (Boddy et al, 1998; Boddy and Macbeth, 2000).
- A long-term inter-firm relationship where participants generally cooperate, share information, and work together to plan and even modify their business practices to improve joint performance (Whipple et al, 2009).
- A process in which organizations coordinate the various activities (exchange information, alter activities, share resources, and enhance each other’s capacity) for mutual benefit and a common purpose by sharing risks, responsibilities and rewards (Barratt, 2004; Fliedner, 2003).
- Two or more chain members working together to create a competitive advantage through sharing information, making joint decisions, and sharing returns and benefits (Simatupang and Sridharan, 2005).

Cousins and Spekman (2003) identified two clear relationship clusters; opportunistic and collaborative. Opportunistic relationships are focused mainly on short-term price reduction while collaborative relationships aimed at sustaining cost reductions. Generally, previous studies suggest that collaborative relationships between supply chain partners provide greater advantages than transactional relationships (Whipple et al, 2009). Thus the cautious arm's length relations are giving way to closer partners' cooperation driven by the perception that there are greater benefits to be obtained through such partnerships (Metcalf et al, 1992). The differences between transactional and collaborative relations are highlighted in Table 3-1 (Benton and Maloni, 2004; Gundlach et al, 1995).

Supply chain collaboration potentially creates value for all members in the chain although such benefits vary in importance and degree among partnering chain members (Fawcett et al, 2008). The literature reports that collaborative efforts offer promise for improved SC performance in several core areas (Fiala, 2004; Wilding and Humphries, 2006). Through collaboration, companies share resources and share and exchange information openly (Bititci et al, 2004; Barratt, 2004; Macbeth, 1994; Larsen et al, 2003), with the genuine aim to enhance relationship between partners (Attaran and Attaran, 2007), reduce risks, reduce costs, reduce time to market, reduce delivery time, increase market-share (Fawcett et al, 2008; Calipinar, 2007), improve quality, competitiveness in the market place (Wanger et al, 2002; Cousins and Spekman, 2003), asset-utilization, skills and knowledge, customer services and so on (Parung and Bititci, 2006; Bititci et al, 2007; Cooper et al, 1997).

Contractual element	Transactional orientation	Collaborative orientation
Duration	One time	Long-term
Transferability	Completely transferable	Extremely difficult to transfer
Attitude	Independent, suspicious	Open, trusting, cooperative
Communication	Very little	Complex
Information	Proprietary	Shared
Planning and goals	Individual, short term	Joint, long term
Benefits and risk	Individual	Shared
Problem solving	Power driven	Mutual
Breadth of supplier base	Large to increase competition and spread risk	Small to increase coordination

Table 3-1-Discrete vs. collaborative dealings
(Adapted from Benton and Maloni, 2004 and Cooper and Ellram, 1993).

There is little doubt that collaboration is critical for optimal supply chain performance (Sheu et al, 2006). Cousins and Spekman (2003) studied some US and UK collaborating firms in both service and manufacturing supply chains. They reported that total cost savings from collaborative relationships reaches over 20% for both service and manufacturing organizations. However, there is still confusion surrounding how to make a collaborative relationship work (Whipple et al, 2009) and additional studies are needed (Hausman and Johnston, 2009).

In conclusion, collaborative relationships between supply chain partners allow for better overall supply chain performance. Based on literature review, the following section will describe previous studies on how collaborative relations are formed and the factors which affect the formation process. In addition, it explores the concept of potentiality and the factors that affect partners' collaborative potential.

3.2 Collaborative potential:

The literature review presented in this section is informed by the work of Bititci et al (2007) who developed the synergy model; which in itself is built on previous work in the field of collaboration and supply chains. The synergy model aims to understand the reasons behind the high failure rates of collaborative ventures and to assess partners' readiness to collaborate. The model identified strategic, operational, cultural and commercial synergies as essential factors that would increase the chances of success for future collaborative enterprises.

The strategic synergy highlights the mutual additional value and competitive advantage to be delivered through partners' collaboration; providing suitable ground for top management to be committed in having close inter-firm business relations. The operational synergy and cultural synergy can be seen as a platform for having suitable organizational collaborative culture that facilitates frequent communication, mutual information exchange and helps in establishing sufficient levels of trust and commitment between partners. While the commercial synergy reflects the needs for sufficient return on investment (ROI) (short and long term), for both parties, which makes them pursue a more collaborative approach (Bititci et al, 2007).

In the same vein with Bititci's synergetic model, several researchers emphasized the importance of sufficient returns, commitment, collaborative culture and trust in reaching successful collaborative relationships. A supply chain management approach implies partners' identification to total cost advantages (Cooper and Ellram, 1993). Yih Wu et al (2004) identified that economic incentives are crucial in improving business integration. Hausman and Johnston (2009) acknowledged the role of trust and commitment for collaborative relationship satisfaction and continuation. Ghijsen et al (2009) identified dyadic trust and commitment in inter-firm organizational settings as prerequisites in close partnerships. Furthermore, they identified that supportive cooperative culture is crucial in mediating collaborative relationships. In the same vein, Busch and Hantusch (2000) acknowledged trust, commitment, and organizational culture; a culture that acknowledges open communication, equity and win-win thinking and empowering people, as key elements in the partnering process. Min and Mentzer (2004) discussed the importance of creating supply chain orientation to guarantee the success of collaborative supply chains business relations. They identified commitment, trust and cooperative norms as essential elements for collaborative efforts to succeed.

From this literature, it can be deduced that potential returns, management commitment, collaborative culture and trust are key factors in identifying the potentiality of partners to collaborate. It is contended that potential returns induce the desire of partners to collaborate through the identification of potential chances to have better results; collaborative opportunity while commitment, trust and collaborative culture reflects the degree of partners' readiness to exploit that opportunity and undertake collaborative relations; collaborative readiness. The next section will explore the role that each factor plays in inter-firm collaborative business relations.

3.2.1 Potential returns

Potential sufficient returns can be seen as the threshold for any business collaborative venture. It is contended that the mutual expected outcome is the major impetus for partners to participate in any collaborative relation (Nummela, 2003; Barratt, 2004; Wu and Cavusgil, 2006). Ballou et al (2000) identified that supply chain members need to realize benefits from their cooperation to enhance chances of successful cooperation (Power, 2005).

It is widely recognized that collaborative relations require commitment of substantial resources, especially in the form of time and effort and only enough economic incentives can create the desire to have close business integration (Yih Wu et al, 2004). In general, Barratt (2004) noted that the value derived from collaboration should outweigh the cost of implementation. Partners are often reluctant to participate in a relationship if not enough incentives are available (Ghijsen et al, 2009). For example, in their study for one of the hospital supply chains, Hausman and Johnston (2009) attributed the failure to pursue collaborative relations to the inability of the derived benefits to outweigh the cost of implementation. While in their study for the development of collaborative ventures between companies, Wanger et al (2002) referred to the expected benefits as the initial motive for pursuing collaborative strategy. It should be noted that profitability at one level of the chain must be translated into profit sharing up and down otherwise the motivation to collaborate diminishes (Fawcett et al, 2006). Regardless of the value created by the collaborative relationship, there must be an equity division of the relation returns with regard to partners' contribution (Kumar, 2005).

It is important to note that close inter-firm relation returns are not restricted to commercial goals and financial profits but it extends to include other benefits (Nummela, 2003). Kanter (1994) identified that the risk of missing a rare opportunity motivates firms to enter into close relationships with open-ended possibilities beyond just clear financial payoffs. Increasing knowledge, sharing risk, sales growth, product development, market development (Wu and Cavusgil, 2006), increased information flow, reduced uncertainty (Fiala, 2004), development programs for partners (Ghijsen et al, 2009) are all valuable returns from collaboration. It should also be noted that firms' strategic needs to gain better social position, gaining access to resources unavailable within the firm or to capitalize on a strong social position to gain more competitive advantage provides additional incentives for firms to undertake collaborative relations (Wu and Cavusgil, 2006).

It can be contended that collaboration is not suitable for all business relations. Owing to the resource-intensive nature of collaborative relationships, it is not likely that every relationship a firm enters into can be collaborative (Whipple and Russell, 2007). Only relations with potentially enough economic incentives provide the opportunity for partners to collaborate. The first trigger for top management commitment to collaboration is the expected returns. Generally, firms are expected to be committed to a relation if the potential benefits outweigh the cost of implementation. The next sub-section will discuss management commitment and its expected role in the formation of collaborative relationships.

3.2.2 Management commitment:

Close inter-firm relationships are built on the foundation of mutual commitment (Morgan and Hunt, 1994). The key to achieving desired collaborative breakthroughs is to establish strong widespread managerial commitment (Fawcett et al, 2006). Management commitment is recognized as an essential ingredient in long term inter-firm relationships (Gundlach et al, 1995). Without top management support, collaborative relations will not occur (Cooper and Ellram, 1993). A number of studies cite commitment as the most influential relational element in terms of its impact on joint efforts (Hausman and Johnston, 2009). Commitment refers to partners' willingness to make short-term sacrifices to maintain long-term relationships (Yih Wu, et al, 2004) and the enduring intention to develop and maintain a relationship in the future (Duffy, 2008; Golicic and Mentzer, 2006).

Although previous research admitted that commitment within supply chain context provides some liabilities (increased vulnerability to opportunism) over partners (Gundlach et al, 1995), it should be noted that SCM cannot deliver exceptional value without the highest levels of managerial commitment throughout the whole supply chain (Fawcett et al, 2006).

Relationship commitment is defined as an exchange partner's willingness to exert maximum effort towards goal accomplishment (Morgan and Hunt, 1994) and the belief that the relationship is worth the effort required to ensure its survival (Hausman and Johnston, 2009). Wu and Cavusgil (2006) defined organizational commitment as an implicit or explicit pledge of relational continuity between exchange partners.

Previous studies highlighted the importance of four different types of commitment that were identified as necessary for collaborative efforts to prosper and flourish. Top management commitment, broad-based functional commitment, channel commitment, and commitment to infrastructural development and governance are vital for collaboration efforts to succeed (Fawcett et al, 2006).

Top management commitment refers to senior management, up to the CEO, willingness to undertake close business relationships. A lack of top management support results in superficial collaborative efforts (Fawcett et al, 2006) and consequently the abortion of any collaborative venture.

Barratt (2004) highlighted the importance of internal integration within various functional activities in reaching successful collaborative relations. Broad-based functional support, as the second building block for commitment for supply chain initiatives and the efficient intra-organizational coordination are likely to determine how successful collaborative relations are likely to be (Barratt, 2004).

Channel commitment refers to the mutual inter-organizational commitment to undertake close relation from both sides of a dyad. Boundaries between organizations have been shown to restrict the flow of information and the development of close relation between collaborating partners, hence forming great barriers for collaboration to occur. It should be noted that social bonds and personal relationships are essential in close business relations (Barnes et al, 2007) and can act as effective mediators, hence allowing for better channel support and commitment (Nummela, 2003).

Finally, the dedication of resources represents the fourth building block of commitment. To support better and more effective collaboration, partners should be committed to provide infrastructural and governance mechanisms to support collaboration. Fawcett et al (2006) identified that infrastructural and governance mechanisms can be seen in the form of executive governance councils, partner advisory councils and sometimes developing senior executive supply chain positions.

To better understand commitment in a relationship, Gundlach et al (1995) and Whipple et al (2009) conceptualized commitment as a three-component model; input or instrumental component, attitudinal component and temporal component. The input component refers to allocating resources that are specific to a relationship and are difficult to be redeployed by one party thus creating a self interest stake in the relationship. The attitudinal component signifies the enduring intention by the parties to develop and maintain a stable long-term relationship while the temporal dimension highlights the fact that the relationship is expected to continue over a long time. It should be noted that the greater the presence of each of these components, the greater degree of commitment in a relationship. For the purpose of this study, this research takes the view that commitment has both an input side and a long-term intention side as shown in table 3-2.

Commitment inputs	**Long term intentions commitment**
Idiosyncratic and dedicated investments Non-refundable assets that constrain strategic position	Intentions regarding future investments Actual commitment inputs made in future exchange

Table 3-2-Conceptualizing commitment
(Adapted from Gundlach et al, 1995 and Whipple et al, 2009)

3.2.3 Collaborative culture:

Collaborative culture represents the organizational behaviors that support collaborative arrangements. It refers to the values through which partners recognize what behaviors, goals, and polices are important, unimportant, appropriate or inappropriate, and right or wrong (Morgan and Hunt, 1994).

Several publications highlighted the importance of the presence of adequate organizational culture in the pace of attaining successful collaborative relations (Beugelsdijk et al, 2009; Mello and Stank, 2005). The importance of corporate culture and its compatibility across channel members cannot be underestimated while establishing collaborative arrangements (Cooper et al, 1997). Chin et al (2004) identified that building collaborative corporate culture that supports collaboration is an important prerequisite for collaboration to succeed. Boddy and Macbeth (2000) identified that the move from adversarial, arm's-length dealings to collaborative relations requires much cultural support from organizations. Barratt (2004) emphasized the role of having a culture of openness and honesty in reaching successful and close inter-firm relationships. Wu and Cavusgil (2006) highlighted the role that collaborative culture plays in eliminating goal divergence and synchronizing attitudes and behaviors between business partners.

Collaborative relations necessitate sharing proprietary information, strategy, planning and goals across collaborating organizations (Benton and Maloni, 2004). Most firms do not feel comfortable exposing such elements to others (Benton and Maloni, 2004). It is contended that only suitable collaborative organizational culture can provide an adequate platform for partners to communicate and to exchange such information freely.

Communication is the means of connecting partners together and helps in resolving conflict between partners. It provides the platform for frequent mutual exchange of meaningful and timely information between firms (Yih Wu et al, 2004). It fosters confidence in the continuity of the relationship and reduces dysfunctional conflict. In general, supply chain members are motivated to commit to a relationship that is characterized by an open sharing of information (Yih Wu et al, 2004). It can be contended that effective and open communication requires mutual organizational culture that facilitates the exchange of information, thereby supporting collaborative efforts.

Barratt (2004) referred to the internal organizational resistance as a major challenge for collaborating ventures to prosper; hence collaborative culture creates a complete sense of awareness about the needs of all partners in a relationship (Maloni and Benton, 1997). Lower level managers and workers across a variety of functions who must implement collaborative ventures must buy into the collaborative programs or it cannot succeed (Fawcett et al, 2006). It should be noted that top management efforts and programs to build collaborative culture is a prerequisite for successful collaborative ventures formation (Barratt, 2004). Top management must invest in the creation of a team-oriented and collaborative culture (Fawcett et al, 2006). They should empower and facilitate employee's participation to enhance their commitment (Chin et al, 2004). These efforts can convey the commitment to different employees and build supportive business culture to collaboration. Full top management support to collaborative practices make the task of overcoming functional resistance much easier (Fawcett et al, 2006); hence providing the suitable grounds for broad-based functional support which, in turn, leads to adequate supportive collaborative culture among all organizational members.

Lai (2008) identified that collaborative culture allows information exchange (mutual information exchange useful to the partner), flexibility (mutual willingness to make adaptations for the sake of the relationship success) and solidarity (mutual behaviors that are directed specifically toward relationship maintenance), hence leading to better opportunity for the formation and continuation of collaborative relations.

Based on the above discussion, this research operationally conceptualizes collaborative culture into the top management efforts to share technical expertise and technical knowledge, exchange critical information, and establish steering committees and advisory councils. Fawcett et al (2006) underscored that these efforts help in overcoming organizational gaps and resistance; hence allowing supportive collaborative culture to exist.

3.2.4 Trust:

Trust within relationships is important for all firms to operate within their collaborative relations (Batt and Purchase, 2004). It plays an increasingly important role in the partnering process, and in all business relationships (Busch and Hantusch, 2000). They highlighted that:

> *Trust is an essential value to all human relationships, but it is also a fragile good, which is hard to earn and easy to destroy (Busch and Hantusch, 2000).*

Partnering real gains can only be achieved when supply chain collaborative partners trust each other (Panayides and Lun, 2009). Lee-Mortimer (1993) highlighted that developing long-term partnerships between partners requires the ability and willingness of both sides to operate in an atmosphere of trust. Empirical findings suggest that trust enhances a partner's willingness to collaborate (Hausman and Johnston, 2009) and hence is regarded as fundamental towards effectively implementing collaboration in supply chains (Panayides and Lun, 2009). The importance of trust in the context of facilitating social and business interactions is evidenced and is recognized as an integral part of inter-organizational relationships (Panayides and Lun, 2009). Trust is needed to perceive the intentions of the other party correctly, to exchange important information, or to have confidence in the other party's ability to meet partnering obligations (Busch and Hantusch, 2000) even with the absence of detailed information about the actions of the other party (Laaksonen et al, 2008). It is widely recognized that collaborative relations require unprecedented levels of trust as the knowledge transferred between partners is often tacit, un-codified, specific and commercially sensitive (Nummela, 2003).

Trust refers to the extent to which supply chain partners perceive each other as credible and benevolent (Whipple et al, 2009). It can be defined as the willingness to rely on an exchange partner in whom one has confidence (Yih Wu et al, 2004; Morgan and Hunt, 1994; Golicic and Mentzer, 2006). It is the belief that the partner will perform actions that will result in positive outcomes for the firm and not to take unexpected actions that may result in negative outcomes (Batt and Purchase, 2004). "Trust concerns the willingness of one person or group to relate to another in the belief that the other's actions will be beneficial rather than detrimental, even though this cannot be guaranteed" (Child, 2001). In the same vein, Hart and Johnshon (1999) defined trust as the belief, confidence, and faith that a company and its people will be fair, reliable, competent, and ethical in all dealings.

Trust is an asset that requires effort, sensitivity and time to build up and maintain (Child, 2001). Inevitably, partnering means that both parties must take risks and expose their vulnerabilities, hence before you are trusted, you must trust others first (Busch and Hantusch, 2000). To trust blindly would be extremely naïve and is not a prescription for survival in business (Child, 2001). Busch and Hantusch (2000) identified the trust- building process as fragile and easily breakable and identified two main reasons for this:

- Trust-destroying events are more visible and noticeable than trust-building events. Positive events are taken for granted in contrast to negative events.
- Trust-destroying events carry more weight on judgment than trust-building events.

It is argued that the experience of working together is an important factor in cultivating trust in business dealings (Child, 2001). Busch and Hantusch (2000) identified consistent and predictable behaviour, honesty, clear communication and sharing information as essential actions and behaviours to reinforce and maintain trust in a relationship. In accordance, this research will subjectively determine the level of trust in a dyad in accordance with the history of business transactions between partners, clear mutual communication and mutual information sharing.

The previous literature review highlighted the importance of potential returns, commitment, culture and trust in the building process of collaborative relations. It could be argued that the major impetus for partners to undertake any collaborative venture is the potential returns. Sufficient potential returns indicate a potential opportunity for realizing benefits and achieving better results; collaborative opportunity. The presence of quite acceptable levels of management willingness, coupled with sufficient levels of trust and supportive collaborative culture reflect the partners' readiness to utilize this collaborative opportunity; collaborative readiness. It is contended by this research that the collaborative potential is a combination of collaborative opportunity and collaborative readiness. The presence of returns, commitment, trust and collaborative culture (i.e. potentiality factors) reflect the collaborative potential of partners and puts partners in a position as potential collaborators. Hence, it is claimed that the degree of partners' potential is contingent upon potential returns as well as the existing levels of commitment, trust and collaborative culture and that these factors vary across a continuum from high to low.

From the previous literature exploration around collaborative potential, we can conclude that the collaborative potential is theoretically a valid construct giving an answer to the first part of the question that was raised earlier in chapter two. In addition, the literature review revealed that there are four factors that affect collaborative potential; providing an answer to the second part of the question. It could be highlighted that literature identified **returns**, **commitment**, **trust** and **collaborative culture** as factors affecting collaborative potential for collaborating partners as shown in figure 3-1.

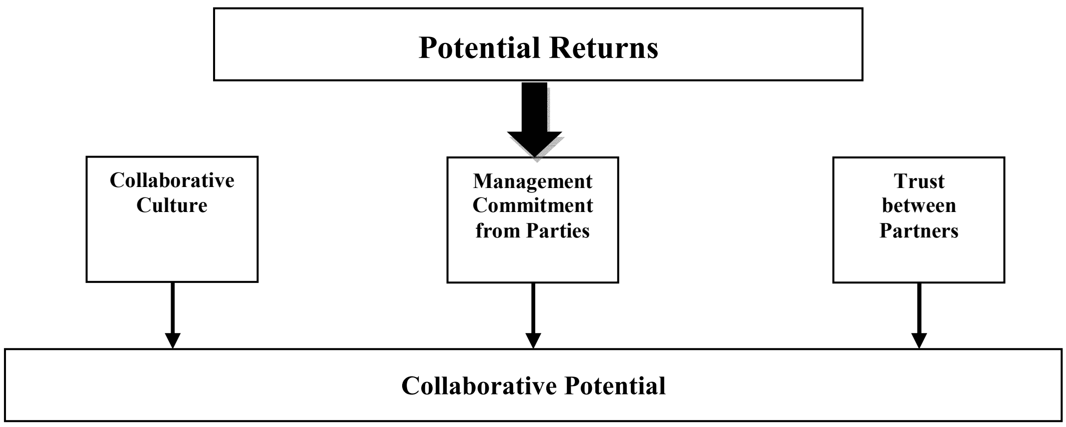


Figure 3-1 – Potentiality factors relation with collaborative potential

The previous discussion and the theoretical validation of the collaborative potential construct leads to extending the first research question into two further research questions:

Research Questions:

***RQ1.1**: Are these factors really true in practice?*

***RQ1.2**: Are there other factors that affect collaborative potential?*

It should be highlighted that the potentiality factors alone are not sufficient for the continuity of collaborative relations. It is suggested that collaborative relations are affected by other factors besides the potentiality factors, that affect the degree of partners interaction; the collaborative intensity of the relationship. The next section will discuss the notion of collaborative intensity as well as the factors that may affect the depth of collaborative relations.

3.3 Collaborative intensity

Despite extensive writing in the area of characterizing partnerships, researchers state that the concept of collaboration, its nature and attributes are still poorly understood. It is widely recognized that supply chain collaboration occurs when two or more companies share the responsibility of exchanging common planning, management execution and performance measurement information (Barratt, 2004 B). Collaborative behavior engages partners in processes beyond levels reached in less intense trading relationships (Spekman et al, 1998) hence allowing for synergy to develop among partners (Whipple and Russell, 2007). Effective supply chain management in the new competition era suggests seeking close, long-term working relationships with one or two partners who depend on one another for much of their business; developing interactive relationships, sharing information freely, working together to solve common problems and to design new products, and making their success interdependent (Whipple and Russell, 2007).

Previous research identified that inter-organizational relationships are positioned in-between continuum anchors of market transactions and vertical integration (Duffy, 2008 and Kanter, 1994) with collaborative relations in-between (Golicic and Mentzer, 2005). In the same vein, Cooper and Ellram (1993) identified that supply chain collaboration is viewed as lying between fully-vertically integrated systems and those where each channel member operates completely independent. In his study to the UK automotive industry, Lamming (1986) identified four different models of partners relationships; traditional model, stress model, resolved model and the Japanese model. The traditional model along with the stress model favored arms' length dealings with each side trying to maximizing the benefits from the relation on the expense of the other. The resolved model and the Japanese model could be seen as a move from adversarial business relations to collaborative, win-win business relations. Golicic et al (2003) proposed the concept of relationship magnitude in which they highlighted the presence of different levels of intimacy or closeness in business relations. It should be noted that collaborative relations may be of varying intensity depending on the factors internal to each individual trading partner (e.g. technological capability) as well as external relationships (e.g. the level of trust that exists across trading partners) (Whipple and Russell, 2007). Golicic and Mentzer (2005) demonstrated empirically that no one size fits all in terms of collaborative relations and highlighted that firms should have a portfolio of different relationships. This highlights that firms should maintain different degrees of closeness while shaping their relations with partners in accordance to benefits against cost.

During the past 20 years, several collaborative tools emerged aiming to optimize trading partners' relationships, with an ultimate goal of enabling a truly integrated supply chain (Barratt, 2004 B). Customer relationship management, collaborative demand planning (including CPFR), demand replenishment and shared distributions were identified as potential enablers for downstream supply chain integration. From the upstream side, supplier relationship management (VMI and CRP), supplier development, supplier planning and scheduling, collaborative design and collaborative transportation were identified as facilitating tools for effective supply chain collaboration (Barratt, 2004). It should be noted that identifying the suitable tool and the extent of its usage is contingent to the depth of the relation between partners.

3.3.1 Collaborative tools overview:

Since the early 1990s, there has been a growing understanding that supply chain management should be built around the integration of trading partners (Barratt and Oliveira, 2001 A). To counter trend globalization effects and to further enhance business relationships, trading partners should move toward more collaborative approaches (Attaran and Attaran, 2007). Several attempts are made by researchers and practitioners to convert the potential benefits of collaboration to reality. Various collaborative tools (CPFR, CR and VMI) emerged in the mid 1990s as potential enablers of supply chain integration with the aim of optimizing trading partners' relationships, with an ultimate goal of enabling a truly integrated supply chain (Barratt, 2004). All of these collaborative approaches share a common focus of enhancing supply chain integration through better information sharing.

In 1992, the first collaborative move emerged in the grocery industry and consumer packaged goods industries. Efficient consumer response (ECR) initiative appeared to improve the relation between manufacturers and retailers (Barratt and Oliveira, 2001 A). ECR is the trigger to a philosophical shift from holding information internally to sharing strategic information, developing trust relationships, and searching for efficiency improvements that would deliver enhanced customer value (Whipple and Russell, 2007). With ECR, manufacturers and retailers started to work together to attack supply chain uncertainty (Whipple and Russell, 2007).

ECR was expanded to include suppliers, manufacturers and retailers within supply chains, and was adopted by other industries as well. It served as the launch pad for additional collaborative approaches - including Vendor Managed Inventory (VMI), continuous replenishment programs (CRP) and collaborative planning, forecasting and replenishment (CPFR) (Whipple and Russell, 2007).

VMI is a technique developed in the mid 1980s, whereby the manufacturer has the sole responsibility for managing the customer inventory policy, including the replenishment process (Barratt and Oliveira, 2001 A). It promises a win-win situation for both buyer and seller whereas the supplier is given the freedom to decide upon the replenishment schedule as long as the agreed customer service levels are met. (Claassen et al, 2008). Another form of collaborative initiatives is the CRP which emerged as a business practice in the 1990s. CRP moves one step further than VMI in which it reveals stock levels in retailers' stores.

CPFR, a collaborative initiative that emerged in 1995 (Barratt and Oliveira, 2001 A), is perhaps the more evolutionary form of these approaches, as it includes not only a thorough examination of factors that create uncertainty, such as promotional influences, but also focuses on greater coordination within and between retailers and manufacturers (Whipple and Russell, 2007).

3.3.2 Models and frameworks:

Previous research identified different classifications and frameworks for the different levels of interaction in business relations. Most classifications share the same idea of categorizing relations into either arm's-length or collaborative relations. In the arm's-length dealings, relations are characterized by being short-term and are mainly price focused while close relations are skewed towards long-term win-win business transactions. Golicic et al (2003) highlighted that even in the collaborative relations category; relations may include different levels of relations intensity. Generally, most of the studies share the idea that more collaboration is the ultimate goal of collaborative business relations and as collaboration increases, the more successful is the relation. Mouritsen et al (2003) hypothesized that the more the integration, the better the management of the chain and the better the results achieved. In the same vein, Golicic and Mentzer (2006) identified that closer relations are likely to produce higher value for collaborating partners. However, they highlighted the need for closer examination of this argument in future research.

Duffy (2008) developed a framework to identify factors that differentiate between partnerships and lesser coordinated relationships. He pointed out that the increase in interaction, information exchange and levels of joint activities provide higher levels of performance.

Whipple et al (2009) identified that relationships between partners can vary across a classification continuum which borders between transactional and collaborative relationship options. Hence, managers have to analyze the continuum of possible exchange relationships in order to assess whether collaborative strategy offers the best fit or transactional relation is more feasible.

Valsamakis and Groves (1996) developed three generic models for supplier-customer relationships representing different levels of supply chain integration. These are the adversarial, semi-adversarial and partnership model. The adversarial model is characterized by short-term competitive relationships that are price focused and rely on minimum quality standards. The semi-adversarial model refers to relationships that are characterized by the power/dependence play between supply chain members and especially by the way the most powerful members use their power to direct the relation. The partnership model is characterized by long-term relationships, emphasis on total quality management, synchronization of activities across the supply chain, joint and continuous efforts for improvement and reduction of costs and fair sharing of benefits between partners (Valsamakis and Groves, 1996). However, it is clear that Valsamakis and Groves (1996) ignored the role of power in the partnership form of business interaction.

Spekman et al (1998) identified three different levels of inter-firm interactions among trading partners; cooperation, coordination and collaboration. The three levels of interactions indicate that partners engage themselves in long-term relationships with varying intensity levels. Under the cooperation umbrella, generally firms exchange bits of essential information while, in the coordination form, specified workflow information is exchanged in a manner that permits JIT systems, EDI, and other mechanisms that attempt to make seamless many of the traditional linkages between and among trading partners. Collaboration, as the third level of intensity, requires high levels of trust, commitment and information sharing among partners. In their classification, they identified the collaboration form as the superior form of interaction while coordination and cooperation are less advanced forms of business interaction. Generally, they propose that the more the intensity, the better the performance.

Lee (2000) outlined three levels of supply chain integration: information integration, co-ordination and resource sharing, and organizational relationship linkages. Information integration refers to the sharing of sales forecasts, production plans, inventory status and promotion plans among members in the supply chain. Co-ordination and resource sharing refers to the realignment of decisions and responsibility in the supply chain. Organizational relationship linkages include open communication channels between the members in the supply chain, sharing of common vision and objectives and applying common performance measurement.

Barratt (2004) proposed segmentation approach in which partners are segmented according to the needs of the partners. One of these segments may be appropriate for arm's-length approach, while others may be most appropriate to a collaborative approach.

During their study to understand the characteristics of the manufacturer-retailer collaborative relationships, Whipple and Russell (2007) developed a typology for collaborative approaches. They identified three different types of collaborative relationships, with varying degrees of joint work; collaborative transaction management, collaborative event management and collaborative process management. They postulated that collaborative relations start with collaborative transaction management till it reaches its maturity form of collaborative process management.

In the same vein, Simatupang and Sridharan (2005) identified the importance of measuring levels of collaborative practices to assist the chain members to identify the shortcomings of their current levels and identify possible improvement opportunities to remedy them and hence intensify the collaboration.

From the preceding literature exploration, it could be seen that there is consensus among previous studies that inter-firm collaborative relations may vary in intensity. We can then conclude that the collaborative intensity is theoretically a valid construct giving an answer to the first part of the second question raised earlier in chapter one. However, the concept of relationship intensity, although previously existed, has received little attention in previous studies (Golicic and Mentzer, 2005) and further empirical investigation is needed (Golicic and Mentzer, 2006).

Hence, to answer the second part of the question, it is essential to investigate the factors that determine collaborative ventures' intensity. Golicic and Mentzer (2005) highlighted the importance of studying antecedents of relationship degree of interactions. It could be argued that there are additional factors (other than the potentiality factors) that determine the intensity of collaboration. In order to reach better collaborative relations, it is important to identify and understand the factors that affect the intensity of collaboration. The next section aims to discuss the factors that seem to be crucial in determining the level and intensity of collaboration in dyads.

3.3.3 Determinants of collaborative intensity

Yih Wu et al (2004) referred to SCM commitment, marketing determinants and behavioral determinants of SCM as three different categories of factors that are most influential on business process integration in SCM. In the same vein with Bititci et al (2007) they emphasized the role of management commitment and some behavioral issues including continuity and trust in building successful close business relations. Continuity refers to the perception of the bilateral expectation of future interaction. It allows trust to exist and nourish and helps in establishing suitable culture that allows for frequent two-way communication, hence providing a stable situation for strategic integration.

Yih Wu et al (2004) discussed other factors that they considered to be influential in collaborative ventures. They discussed idiosyncratic investment, product saleability and dependence and referred to them as three important marketing determinants for business integration. Idiosyncratic investments are non- recoverable investments and are dedicated to a specific-channel relationship. It may include training, exchanging technical expertise and building joint specialized facilities. It can be argued that non-recoverable investments strengthen the bonds between the partners (Nummela, 2003). Product saleability is the downstream firm's perception of the product as having value, being useful, well serviced, and of a good quality. Dependence is viewed as the extent to which a partner provides valued resources for which there are few alternative sources of supply. It can be argued that deepening interdependence within a channel relationship, idiosyncratic investments and high saleability of the products will tend to improve the degree of collaboration. It can be inferred that product saleability and the degree of dependence refers to the nature of the market between partners; hence reflecting the role that market dynamics play in determining the degree of collaboration.

Besides, in the behavioral category, they referred to power as important determinants to the relation. In the same vein, Benton and Maloni (2004) referred to power as an effective variable in the supply chain.

Bagchi and Lansen (2002) identified that power and innovation play an important role in determining the level of integration in supply chains. Golicic and Mentzer (2006) highlighted the effect of dependence and the availability of alternatives on determining collaborative relations degree of interaction.

In conclusion, the previous literature review highlighted the effect which power relations, market dynamics and innovation in specific critical information, might have in partnering relations. The next sub-sections will explore these factors in greater detail to identify their role in determining the degree and extent of collaboration in inter-firm relationships.

3.3.3.1 Power relation:

Supply chains are complex power structures (Watson, 2001) in which power plays an important role in determining the nature and level of its integration (Larsen, 2006; Cox et al, 2004; Bagchi and Larsen, 2002). Power can be defined as the ability to control one's own/another entity's range of intended or actual actions, depending on the nature of power asymmetry and through exploiting different influence strategies (Stannack, 1996; Ogbonna and Wilkinson, 1998). Power asymmetry in a relation refers to the variation in dependence between partners and stems from a powerful partner at one side and a dependent partner at the other side (Johnsen and Ford, 2008). In general, power and dependence are closely related concepts (Caniels and Roeleveld, 2009) and the dependency perspective can be seen as the cornerstone for most theories of power (Ogbonna and Wilkinson, 1998). The dependency theory makes the power to control or influence others reside in the extent of the other's degree of dependence (Ogbonna and Wilkinson, 1998). Influence strategies can be defined as the tactics employed by one partner to influence the behavior of the other (Ghijsen et al, 2009). Influence strategies comprise both direct coercive (request, promises, threats and legalistic pleas) and indirect non-coercive (information exchange and recommendation) strategies (Ghijsen et al, 2009).

Despite power, dependence and conflict play a central role in supply chain dyads' (Nummela, 2003; Benton and Maloni, 2004), empirical research on power and dependence is still limited (Caniels and Gelderman, 2007). The impact of influence strategies, when managing collaborative relationships, is still cloudy (Hausman and Johnston, 2009). The concept of power remains under-explained in a business relationship context (Hingley, 2005). The role of power in business to business relationships has been either ignored or dealt with as a side issue, whereby the concept of power is rarely discussed in supply chain except to deny its importance (Hingley, 2005 B). In addition, empirical research to understand the role of influence and power on collaborative actions is rare (Zhao et al, 2008). This highlights the need for further research to provide guidance for firms wishing to undertake collaborative arrangements (Hausman and Johnston, 2009).

Previous research produced conflicting view points on the role of influence strategies and power difference in collaborative relations. Some studies acknowledged exploiting power differences coercively to promote collaboration and highlighted the role of power play in encouraging and rising compliance behavior in collaborative ventures. Other studies highlighted the role of using non-coercive power influences in searching for successful collaborative relations. Some other studies contended that power imbalance has no place in close partnerships (Kumar, 2005). Another stream of literature denied the relation between influences techniques and power from one side and collaborative ventures prosperity from the other side (Hausman and Johnston, 2009).

In general, business relations are characterized by interdependence power structures (Kumar 2005). Although power imbalance is inevitable in supply chain relationships (Valsamakis and Groves, 1996) and without denying the presence of complete power dominance in some relations, there is a scarcity in finding complete power in a relation (Kumar 2005). The nature of interdependence relation can be determined on whether there is difference between the reliance and the degree of dependency between partners on each other or not. Interdependence in a relation can be seen in the form of either interdependence symmetry or interdependence asymmetry (Lai, 2008). He contended that adoption of influence strategies by one partner in a dyad depends on the nature of interdependence or power asymmetry between them.

Lai (2008) identified that interdependence symmetry will let partners mitigate the use of coercive strategies in favor of more non-coercive strategies, while interdependence asymmetry will let the less dependent side adopt coercive strategies more frequently than non-coercive strategies.

Over the past 15 years, several publications emphasized that the most appropriate way for partners to manage their relationship is to eschew short-term and adversarial approaches in favor of more transparent, equity-based, win-win and long-term collaborative ways (Cox, 2004 A). Hausman and Johnston (2009) identified that managing collaborative relations requires employing influence tactics that deepen interdependence and do not damage the relation in the future.

Despite previous studies claiming that relationships that are power balanced tend to be more stable than unbalanced ones, Hingely (2005 B) contended that asymmetric relations could be stable and long lasting when the powerful side adopts smoothly his power influence. Some studies have empirically demonstrated that coercive influence strategies have negative effects on partners' relationships (Gelderman et al, 2008) which may lead the dominated party to resist or even dismiss the relation. The attempt to exert a direct influence, by means of dominating and pressurising the other party, should be abandoned in inter-relational organizations (Ghijsen et al, 2009). Hausman and Johnston (2009) claimed that coercive strategies are counterproductive to collaborative relations. In the same vein, Benton and Maloni (2004) identified the use of coercive strategies as damaging the power advantage and may lead to opposition from the weaker side and hence hurt the power holder. In their study of relationships magnitude, Golicic and Mentzer (2006) identified that the use of power advantage would not only hurt the relation depth but also may lead to ending the relationship.

Hingley (2005) identified that power relation is not static and it can change in a flux between parties, even within an ongoing relation, and hence power advantage can move from one side to the other. Gaski identified that at the moment the dominated partner feels unacceptable abuse of power and finds alternatives, he will strive to change the situation and, as mentioned by Kotter, in some cases a retaliation strategy may be applied (Gelderman et al, 2008). In addition, previous research identified that weaker organizations in asymmetric relationships have a certain degree of tolerance to imbalance of power and asymmetric relationships (Hingely, 2005 B). There is no doubt that the abuse of power is a destructive force and when one party is threatened by the misuse of power, the weaker party will be more likely to seek alternative alliances (Hingely, 2005 B). Benton and Maloni (2004) highlighted the importance of power satisfaction variable for the sake of continuity of partnerships and claimed that it must be included in any examination of supply chain partnerships. They defined partner satisfaction as the feeling of equity with the supply chain relationship no matter what power imbalances exist between partners. Partners' satisfaction influences the performance, and generally the degree of responsiveness of a manufacturer is contingent to the level of satisfaction of its partners (Benton and Maloni, 2004). If partners are dissatisfied, contributions might not be the best, which in turn hampers the performance (Ghijsen et al, 2009) and may lead to the abortion of collaborative ventures.

The use of smooth influencing behavior is widely acknowledged under this school of thought. It is contended that non-coercive influence strategies produce positive outcomes (Hausman and Johnston, 2009), hence leading to better opportunity for increasing the levels of partners' interaction. Supplier development efforts are intentionally used to smoothly affect supplier behavior and improve supplier performance (Ghijsen et al, 2009). The ability of a partner to provide developmental programs for its partner allows for smart influencing behavior to appear resulting in better degree of interaction between partners. Supplier development is defined as the effort of one firm with its partner to improve its performance and capabilities and meet the short/long term supply needs (Ghijsen et al, 2009).

On the other hand, Watson (2001) identified that the power structure may challenge the search for a totally integrated supply chain. Hingley (2005 B) identified that power imbalance is unfavorable to business relationships' sustainability. Cox (2004 A) pointed out that although collaborative, equity-based approaches can be made to work; it usually works when business partners have a clear symmetric interdependence on each other. Caniels and Roeleveld (2009) identified that a high level of interdependence only allows for deepening cooperative relationship as interdependence allows for greater stake from both sides in the relation (Fawcett et al, 2006).

El Ansary and Stren (1972) put forward by Hausman and Johnston (2009) identified the importance of exercising power to achieve better inter-organizational collaboration. Cox (2004 A) and Larsen (2006) added that when one party dominates the relation, the dominated side will have to pass value to the dominant party while making only low returns. Similarly, Fawcett et al (2006) identified that dominant buyers often use their power to squeeze suppliers' profit margins. Generally, the weaker side may have little option but to follow the stipulated relationship norms of the more powerful partner if they wish to retain the relation (Johnsen and Ford, 2008). Collaboration in this case does not follow an equity-based approach nor is it characterized by high levels of trust, but it is about naked power (Cox, 2004 A and B). In general, Cox (2004 A) emphasized that the appropriate sourcing strategy for a buyer depends on the power and leverage circumstances that they find themselves in. It may be argued that a partner with significant power might not find it necessary to establish a win-win partnership since it can achieve its own profitability and effectiveness through control of its dependent partner (Benton and Maloni, 2004). A general view is that such partnership agreements tend to offer the most to the more powerful business partner (Hingely, 2005 B). This highlights that the powerful side has the ability to determine the degree of interactions with the more dependent side.

Previous research identified four major factors in determining the nature of dependency, and hence the power asymmetry, in dyadic relations. The degree of sales and profits that one party contributes to the other (Ogbonna and Wilkinson, 1998; Caniels and Roeleveld, 2009) represents the first factor in determining the nature of dependency in dyads. The second factor, the criticality of the activities, refers to one partner unable to continue its business processes in the absence of the other partner's resources (Caniels and Roeleveld, 2009). It is contended that the larger the dependence of one side on the technological expertise of the other provides asymmetric dependency in the relation. Besides, the dependency increases when reliable delivery of one partner is essential for the uninterrupted flow of the business of the other partner.

The availability of alternatives, the third factor that determines the dependency relation, refers to the heightening in dependency if one partner is the sole source/market of a component or activity, or if there are few other alternatives (Caniels and Roeleveld, 2009). Finally, the cost of switching when replacing the supplier represents the fourth factor in determining the nature of dependency between partners (Ogbonna and Wilkinson, 1998).

3.3.3.2 Nature of the market dynamics:

The nature of the market dynamics is another important factor in determining the desire of firms to undertake close business relations (Yih Wu et al, 2004). Firms need to consider the complexity of the market in order to identify the appropriate focus for a partnering relationship (Whipple et al, 2009). Cooper et al (1997) highlighted the effect of market dynamics (the number of available partners) over supply chain integration. The complexity of the market can be seen as a subset from the degree of market uncertainty and dynamics (Wu and Cavusgil, 2006), supply and demand conditions (Lai, 2008), the possession of critical resources and hence few alternatives of reliable partners (Yih Wu et al, 2004), ease of switch between partners (Spekman et al, 1998) and cost of switch from one partner to another (Morgan and Hunt, 1994).

Bagchi and Larsen (2002) highlighted the effect of market dynamics over the level of integration in collaborative business relations. It is contended by Wu and Cavusgil (2006) that high market uncertainty and dynamics can noticeably affect the extent of collaboration between firms. A firm adept in partnering sensing realizes the importance of retaining partners for their crucial complementary resources, especially when these are not easily accessible through market mechanisms (Wu and Cavusgil, 2006). In addition, Yih Wu et al (2004) highlighted that the ability of a firm to provide important and critical resources, for which there are few alternative sources of it, decreases the motives for intensifying collaboration from one side and increases its partners desire to keep the relationship intact from the other side.

Spekman et al (1998) and Morgan and Hunt (1994) identified that the degree of interchangeability and the ease of switching among partners are crucial players in determining the nature and extent of partnering in business relations. If supply chain partners are easily interchangeable and matter little in the future success, price emerges as such a key differentiating factor (Spekman et al, 1998) and partners easily abandon close partnering relations. Besides, a firm's anticipation of high switching costs from one partner to another gives rise to the firm's interest in maintaining a good and close relationship and vice versa (Morgan and Hunt, 1994).

3.3.3.3 Innovation and information exchange:

While organizational culture discusses the readiness of firms to communicate, innovation and information exchange discusses what partners should communicate and the effect of what they communicate and share over the degree of their interaction. Collaboration requires the co-ordination between different functions among different partners. It involves the disclosure of crucial information between business partners. It may involve the sharing of design, new product development and production data (Larsen, 2006), forecast and delivery scheduling data (Mouritsen et al, 2003) among the collaborating partners.

Information, particularly the transparency and quality of information flows, plays an important part in many accounts of supply chain developments (Barratt, 2004). Several publications have highlighted the fundamental need for information sharing if supply chains are to improve performance (Barratt, 2004). Information sharing refers to the act of capturing and disseminating timely and relevant information for decision makers to plan and control supply chain operations (Simatupang and Sridharan, 2005). Information sharing focuses on the level of information that is actually shared. It can be contended that both communication depth (quality and participation) and information breadth (extent of sharing) are important to the success of collaboration (Whipple et al, 2009; Claassen et al, 2008) thereby identifying the extent of collaboration.

Although much of the conceptual literature emphasizes the importance of the communication aspect as a major determinant for a collaborative venture to prosper, (Maloni and Benton, 1997), information sharing and communication between partners, in general, is less than open between partners and technical information is shared only when necessary (Spekman et al, 1998).

Information exchange entails the risk of misuse by collaborating parties. Proprietary resources, such as valuable social networks and technical knowledge, run the risk of being exploited or internalized by the partner without the consent of the original owner (Wu and Cavusgil, 2006). It is contended by Bagchi and Larsen (2002) that innovation and proprietary information highly affect the level of integration in collaborative relations. Firms with much proprietary information are more reluctant to engage in deep collaborative arrangements than firms with little proprietary information.

It could be argued that previous studies lack precise identification for the different factors that affect the degree of partners' interactions and the intensity of their relation (Golicic and Mentzer, 2005). Although previous studies highlighted the effect of market dynamics over partners' degree of interaction, it is clear that there is lack of consensus on the role of power and scarcity of literature on the role of innovation and critical information over the intensity of collaboration. Previous literature provided no precise answer to the second part of the second question identified earlier in chapter one. Although, based on the above literature, it is contended by this research that **power differences**, **market dynamics** and **innovation** play significant roles in determining the degree of partners' interaction in a collaborative venture as shown in Figure 3-2

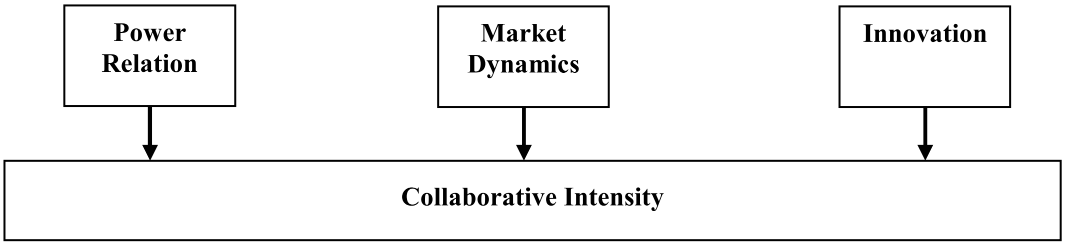


Figure 3-2 – Intensity factors relation with collaborative intensity

Although much of the literature infers equality and cooperation, such a state often proves difficult to attain due to increased chance for opportunistic behavior by a power holder (Maloni and Benton, 1997). It could be argued that the ability of the powerful side to create win-win situations is the best way for intensifying collaborative interactions. Researchers had different perspectives regarding the power relation dynamics and its effect over collaboration. In general, it was noticed that there is a lack of consensus in literature about how power affects collaborative relations, how power differences between business partners is managed and how power affects the intensity of collaboration. It is clear that the issue of power needs further exploration especially between collaborative business partners; extending the second research question raised in chapter two:

Research Questions:
RQ2.1: *what is the role that gap in power between partners plays in collaborative relations?*

The dynamics of the market and its effect over collaborating partners' decisions regarding the degree of interactions received much attention in previous studies. It may be argued that there is a consensus among researchers about the role that the market dynamics play over partners' decisions to identify the appropriate level of their interactions.

Innovation and critical information exchange and their effect on collaboration received little attention among researchers. The effect of innovation and critical information exchange over collaborative relations is still cloudy. Although of the scarcity of literature discussing the effect of innovation over collaborative relations, it is contended that innovation may affect the degree of partners' interaction and may lead to incomplete or inadequate information exchange between collaborating partners. This provides further extension to the second research question raised in chapter two:

> ***Research Questions:***
> ***RQ2.2:*** *what is the role that difference in innovation levels between partners plays in collaborative relations?*

To conclude, Table 3-3 summarizes how literature identified, discussed the effect of commitment, trust, culture (potentiality factors) and power, innovation and market dynamics (intensity factors) over collaboration.

<table>
<tr><th></th><th>Collaborative potential</th><th>Collaborative intensity</th></tr>
<tr><td>Commitment</td><td>Several studies identified mutual commitment as the foundation for collaborative relations (Morgan and Hunt, 1994; Gundlach et al, 1995; Fawcett et al, 2006; Hausman and Johnston, 2009)</td><td rowspan="3">It is important to note that commitment, culture and trust are affected by each other and by the intensity factors as well, either positively or negatively. It is contended that relations that are characterized by high levels of interactions (more intensified) will tend to have better commitment levels, trust relation and collaborative culture.</td></tr>
<tr><td>Culture</td><td>Several publications highlighted the importance of the presence of adequate collaborative culture in the pace of attaining successful collaborative relations (Chin et al, 2004; Barratt, 2004; Wu and Cavusgil, 2006; Maloni and Benton, 1997).</td></tr>
<tr><td>Trust</td><td>Developing a long-term partnership between partners requires the ability and willingness of both sides to operate in an atmosphere of trust (Batt and Purchase, 2004; Busch and Hantusch, 2000; Panayides and Lun, 2009; Lee-Mortimer, 1993; Hausman and Johnston, 2009)</td></tr>
<tr><td>Power</td><td rowspan="3">Not applicable</td><td>Previous studies identified conflicting results regarding the role of power in collaborative ventures.
It can be contended that power structures play an important role in determining the nature and level of SC integration (Larsen, 2006; Cox et al, 2004; Nummela, 2003; Benton and Maloni, 2004; Gelderman et al, 2008; Watson, 2001; Caniels and Roeleveld, 2009, Golicic and Mentzer, 2006).</td></tr>
<tr><td>Innovation</td><td>While previous studies discussed the role of information sharing in collaborative ventures (Bagchi and Larsen, 2002), it was noticed that few studies handled the problem of exchanging critical information, specifically, innovative information.</td></tr>
<tr><td>Market</td><td>The degree of interchangeability and the ease of switching among partners are crucial players in determining the nature and extent of partnering in business relations (Spekman et al, 1998; Morgan and Hunt, 1994; Whipple et al, 2009; Bagchi and Larsen, 2002)</td></tr>
</table>

Table 3-3 -The effect of the different factors over the potentiality and intensity of collaboration

The next section will discuss the interrelations between the potentiality and intensity factors. It is contended that interrelations play a significant role in collaborative relations' formation and intensity as well as determining the appropriate levels of partners' interaction in collaborative ventures.

3.4 Interrelations between potentiality and intensity factors:

The relation between potentiality factors and intensity factors was evident. Previous studies showed that the potentiality and intensity factors are interrelated. In addition, the interrelations between the potentiality factors themselves and the intensity factors themselves were obvious. This section aims to highlight how these factors and their interrelations affect collaboration and how they sometimes manipulate the effect of each other.

It should be highlighted that the development of commitment is a gradual process which occurs simultaneously with the process of cooperation (Nummela, 2003). It may be assumed that the more co-operatively the partners behave, the more positive their attitudes towards cooperation tend to become (Nummela, 2003). Extending this argument, it can be contended that high levels of commitment allow for better opportunity to partners to establish supportive collaborative culture. Ellram (1991) highlighted that top management commitment creates the supportive culture to collaborative work. The presence of well-established reciprocal commitment in a relation nurtures mutual trust and collaborative culture which, in turn, allows for further commitment and longer-term exchange business relation (Gundlach et al, 1995 and Fawcett et al, 2006).

It is contended that a culture of collaboration that supports information sharing and open communication reinforce partners' commitment and the level of trust in a relation. Barratt (2004) identified that a culture that supports openness and honesty can facilitate the establishment of trust and commitment in inter-firm collaborative relations. In addition, it should be noted that the presence of a culture that supports collaborative efforts is essential for sharing confidential information between partners (Whipple et al, 2009). Thus, Cultural differences may create relational barriers among potential collaborators in exchanging sensitive information (Swink, 2006). Now people are expected to work across boundaries in knowledge sharing networks nesseciating the establishment of a culture that supports cooperative behavior (Allee and Taug, 2006).

It is widely recognized that communication and information exchange fosters trust by assisting in resolving disputes and aligning perceptions and expectations (Morgan and Hunt, 1994).

The relation between trust from one side and organizational culture and commitment from the other side is evident. Trust foster commitment in a relationship and allows for establishing a supportive culture for collaborative behavior (Leonidou et al, 2008). It is contended that relationships that are characterized by trust are so highly valued and generally partners will desire to commit themselves to such relationships. Indeed, because commitment entails vulnerability, parties will seek only trustworthy partners (Morgan and Hunt, 1994).

Generally, culture that is supportive of trusting behavior and openness will be of great benefit to supply chain members (Chin et al, 2004). Busch and Hantusch (2000) highlighted that trust is the main foundation for a total partnering culture and that such culture cannot exist in an environment of distrust. This conveys the role that trust plays in inter-firm relationships and in building supportive collaborative culture. When trust is broken, the platform for effective communication disappear (Busch and Hantusch, 2000), which in turn hurts collaborative efforts.

In addition, it has been reported that the exchange of confidential information requires high-trust relationships between partners (Hart and Johnshon, 1999 and Whipple et al, 2009). Soosay et al (2008) highlighted the importance of having a high degree of trust between partners for sharing special organizational knowledge. Trust between collaborating organizations or corporate units encourages the openness in exchanging ideas and information, which is a necessary condition for innovation and other forms of new knowledge creation (Child, 2001) and allows for close inter-firm relationships.

The presence of countervailing power, which can almost always in practice be found to a greater or lesser degree, forces the distinction between the exercised and unexercised power (Ogbonna and Wilkinson, 1998). The presence of power imbalance does not mean that it is always explicitly exercised in supply chain relationships (Hingely, 2005 B). The exercise of power can affect the level of commitment of partners. Forced participation will encourage exit behavior given the opportunity (Cooper et al, 1997). However, the existence of moderating variables can play an important role in manipulating the effect of power asymmetry (Lai, 2008). The effect of market competition on power relation and the usage of power difference are evidenced. It can be identified that the market dynamics, seller/buyer market plays a significant role in determining the suitable level of influence that can be exerted in collaborative relation (Lai, 2008). Ogbonna and Wilkinson (1998) identified that power capacities might change in line with changing market dynamics. In a buyer market, the power can be seen skewed towards the buyer, providing a case of customer dominance over the relation, hence making the buyer's willingness to collaborate diminish whilst that of the supplier heightens. On the other hand, in the seller's market, the power can be seen skewed towards the seller providing a case of supplier dominance over the relation and making the buyer more willing to undertake close collaborative business relation than the supplier (Lai, 2008). This previous discussion shows the effect of the market dynamics over the partners' power relation and the level of their commitment to undertake collaborative relations.

The technical prowess acquired through the specialist technical knowledge and application of technology at one partner side plays a significant role in alleviating power differences between partners (Johnsen and Ford, 2008), reflecting the effect of innovation over power. In the same vein, Soosay et al (2008) referred to special organizational knowledge as a source of power in supply chains. It can be contended that the increase in innovation levels and the increase of criticality of information gives the innovator a better position in the market than competitors and it can manipulate the power difference in a relation.

In addition, Lai (2008) proposed that the presence of supportive and collaborative business culture (shared norms and values) in a dyad might have a moderating influence on the question of dependence and the use of influence strategies. In addition, Ogbonna and Wilkinson (1998) highlighted the role of well-established norms of cooperation and commitment in reducing the likelihood of a more structurally dependent party being exploited.

On the other hand, previous studies identified that power usage and dependence from one side affects the potentiality factors from the other side. It can be argued that power can have positive or negative effects over collaboration. It may be contended that the unwise use of power may hurt partners' commitment to have a collaborative long-term relationship (Golicic and Mentzer, 2006). Gundlach et al (1995) identified that power use varies inversely with commitment in exchange networks hence; deepening interdependence within a channel relationship will tend to increase the commitment for both parties. Ghijsen et al (2009) cited the automotive industry to identify the relation between power, commitment and market conditions. They identified that, the presence of high-power asymmetry between manufacturers and their suppliers coupled with a highly competitive market, led to suppliers being more committed to undertake collaborative relation. If the supplier is highly dependent and there is variety in the sources of supply, suppliers have to strive to maintain the relationship and are generally committed no matter what kind of influence strategy is used. In the same vein, Fawcett et al (2006) identified that if one partner perceives itself to be dependent on a particular partner; it is expected to display a greater level of commitment to that partner's products and programs.

From the other side, the use of coercive influence strategies (especially in aggressive forms) tends to make the other side of a relation dissatisfied as they are likely to hinder a cooperative atmosphere (Ghijsen et al, 2009).

Power can be seen as the antitheses of trust (Hingley, 2005 B). The exercise of coercive power strategy reduces satisfaction and in turn reduces trust between collaborating parties (Leonidou et al, 2008). Symmetric dependence structures allow for trust to occur in a relation and can foster long-term relationships, while exploiting asymmetric power relationships are associated with less stability and more conflict and can easily hurt the trust in a relation (Hingely, 2005 B).

In summary, the different factors that affect the potentiality of partners to collaborate are interrelated. Similarly, the factors that may affect the intensity of collaborative relations are interrelated. It could be identified that the potentiality factors and intensity factors are interrelated themselves and affect each other either positively or negatively in collaborative relations.

3.5 Literature Discussion and Model Development

In the previous sections, the researcher reviewed the supply chain collaboration literature and the factors that affect partners' potentiality to collaborate and the factors that determine the depth and intensity of partners' collaborative relation. The interrelations between the different factors and their effects over each other and over collaboration were examined. Table 3-4 provides a summary for the interrelations between the potentiality and intensity factors and how they affect each other.

	Commitment	Culture	Trust	Power	Innovation	Market Dynamics
Commitment	NA	Commitment leads to the establishment of collaborative culture (Nummela, 2003; Gundlach et al, 1995).	Commitment in a relation nurtures mutual trust (Gundlach et al, 1995; Fawcett et al, 2006).	Well-established commitment reduces the likelihood of a dependent party being exploited (Ogbonna and Wilkinson 1998, Cooper et al, 1997).	NA	Not identified
Culture	Collaborative culture facilitates further commitment and leads to longer-term business relations (Gundlach et al, 1995; Barratt, 2004).	NA	Culture that supports openness and honesty can facilitate the establishment of trust (Barratt, 2004; Whipple et al, 2009)	The presence of supportive collaborative culture in a dyad might have a moderating influence on use of influence strategies (Lai, 2008; Ogbonna and Wilkinson 1998).	Collaborative culture can facilitate the exchange of information (Whipple et al, 2009; Swink, 2006; Allee and Taug, 2006).	Not identified
Trust	Mutual trust allows for further commitment and longer-term exchange business relation (Gundlach et al, 1995; Morgan and Hunt, 1994).	Trust is the main foundation towards developing a partnering culture (Busch and Hantusch, 2000; Power, 2005; Leonidou et al, 2008)	NA	Power can be seen as the antithesis of trust (Hingley, 2005 B; Leonidou et al, 2008)	When trust is broken, the platform for effective communication disappear (Busch and Hantusch, 2000). Exchange of confidential information requires high trust relationships between partners (Hart and Johnshon, 1999; Child, 2001)	Not identified
Power	Power use varies inversely with commitment (Gundlach et al (1995). If the supplier is highly dependent, suppliers are generally committed no matter what kind of influence strategy is used (Ghijsen et al 2009; Fawcett	The use of coercive influence strategies are likely to hinder cooperative atmosphere (Ghijsen et al, 2009; Lambert and	Power can be seen as the antitheses of trust (Hingley, 2005 B; Cooper et al, 1997)	NA	Not identified	Not identified

	et al. (2006).	Cooper, 2000)				
Innovation	Not identified	Not identified	Not identified	Technical prowess acquired through the specialist technical knowledge plays a significant role in alleviating power differences (Johnsen and Ford, 2008; Soosay et al, 2008)	NA	Technical prowess acquired through specialist technical knowledge can alleviate competition in the market (Johnsen and Ford, 2008; Bagchi and Larsen, 2002)
Market Dynamics	The nature of the market affects the level of commitment to collaboration (Lai, 2008; Cooper et al, 1997)	Not identified	Not identified	The nature of the market, seller/buyer market plays a significant role in determining the suitable level of influence that can be exerted in collaborative relation (Lai, 2008; Ogbonna and Wilkinson 1998).	Not identified	NA

Table 3-4 -Interrelations between potentiality and intensity factors

Each cell in the previous table represent the effect of the factors in first column on the factors in the first raw

In conclusion, the previous sections highlighted the importance of the potentiality and intensity factors and their interrelations in identifying collaborative intensity levels in dyads. It is argued that each collaborative relation has an optimal or appropriate level of collaboration; contingent to the potentiality and intensity factors and their interrelations. This discussion based on previous studies led to the development of a conceptual model shown Figure 3-3 explicating the relations between the potentiality and intensity factors and their interrelations and their effect over partners' collaborative potential and collaborative intensity.

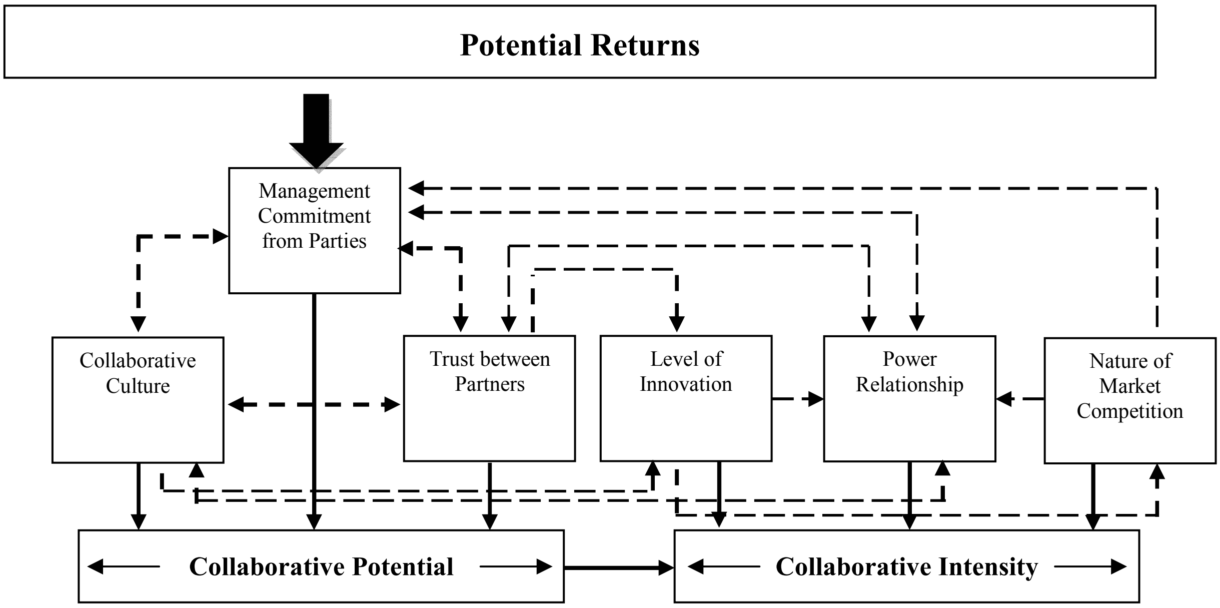


Figure 3-3-Conceptual Model for collaborative relations

It is argued that, in some relations, adding more collaborative efforts and intensifying inter-firm dealings will not add to the relation. In some cases, the existing levels of potentiality and intensity factors may not support more collaborative efforts. In other cases, high adoption costs of joint work may impede intensifying collaboration.

It should be noted that the key, in any collaborative venture, is to initiate a shared understanding of what partners are collaborating over and a clear understanding of the information needed to operationalize such collaboration (Barratt, 2004). Besides, it is essential to investigate the conditions under which more collaboration is beneficial (Arshinder et al, 2008)

Some relationships may well be optimal in the sense that they are most suited to an arm's length, purely cost-based type of relationship, i.e. collaboration would not create any further added value or benefit (Barratt, 2004). Extending this argument, some collaborative relations may be optimal within certain levels of collaborative intensity and could provide quite acceptable results for partners; hence adding more effort to intensify collaboration may not add further value. Although a more inter-firm relation may improve the performance of the SC, it is unclear whether this is always right or not. It may be contended that some relations may be optimal and may provide ultimate results without taking further steps to intensify the collaboration.

In conclusion, it should be noted that intensifying the collaboration should be associated with changes in the dynamics and interrelations of the potentiality and intensity factors. Without such changes, more collaborative efforts will fail. Adding more effort to intensify collaboration without changing the potentiality and intensity factors and their interrelations will be useless and will provide no additional benefits. This further extends the second research question raised in chapter two:

Research Questions:
RQ2-3: *What are the factors that affect and determine collaborative relations' appropriate intensity?*

3.6 The research purpose revisited

After the extensive discussion of previous studies relating to collaborative relations formation, depth and degree of interaction within dyads in supply chains context, it is time to revisit the research purpose to see how it can be practically fulfilled. The overall purpose of this study is to *understand the factors that affect collaborative relations formation as well as the factors that affect collaborative relations intensity*.

Although several studies highlighted the importance of pursuing collaborative relations, supply chain collaboration is, to a large extent, still unachievable (Barratt and Oliveira, 2001) and its implementation, in general, has been slow (Whipple and Russell, 2007).

Collaborative relations can be seen as providing competitive advantage for collaborating companies. This can be inferred from the consensus among previous studies that highlighted the benefits of collaboration. Several publications highlighted the role of sufficient returns in triggering top-management commitment to such ventures. The potentiality factors (returns, commitment, trust, and collaborative culture) can be seen as the building blocks for close inter-firm relations. It is argued, however, that there is a need to understand the role that power differences, variation in innovation levels and market dynamics play in collaborative relations. Much debate among researchers on whether power and influence affect collaboration and its intensity or not and how they affect the intensity of close inter-firm relations. Also, there is a scarcity in studies discussing the effect of exchanging innovative and critical information between collaborating partners and its effect over the intensity of collaborative relations. Hence, the following chapters will deal with empirical investigation and design of research in order to understand how collaborative relations are formed and how collaborative intensity is determined.

Building on the previous theoretical discussion in this chapter, it was deemed important to summarise the research questions, deduced from the literature review, for data interpretation that will be addressed in the following chapters through empirical inquiry.

- *Are the potentiality factors really true in practice? Are there other factors that affect collaborative potential?* The potentiality of partners can be seen as a result of sufficient returns, partners' commitment, trust relation and collaborative organizational cultures. These factors seem to be as essential requirements for any collaborative venture. It is important to understand the factors, and their interrelations, that enlighten feasible opportunity to collaborate and affect partners' readiness to undertake collaborative inter-firm business relation.
- *What is the role that gap in power between partners plays in collaborative relations?* The role that differences in power relations between collaborating partners plays is, to a certain extent, cloudy. Thus, the goal of this research question is to understand the role that power has over

collaborative relations and the effect of power in identifying the collaboration levels in a dyad.

- *What is the role that difference in innovation levels between partners plays in collaborative relations?* The role that variation in innovation levels between collaborating partners plays received little attention in previous studies. Thus, the goal here is to understand the role that innovation and critical information sharing has over collaborative relations and how they affect the depth and intensity of the relation.
- *What are the factors that affect and determine collaborative relations' appropriate intensity?* This research question aims to shed light on the different factors and their interrelations that affect the levels of collaboration within a dyad to reach appropriate collaboration intensity.

The research questions defined above will provide guidance for data gathering as well as interpretation of data in the empirical chapters of this thesis. The next chapters will discuss this in greater detail.

4. Research methodology

The aim of this chapter is to review the wide range of methodological choices available to management researchers. Research methodology plays a vital role in management research. It provides the opportunity to conduct credible and rigorous research.

Research could be seen as a way of accelerating the process of understanding. It provides better understanding of managerial practices and how managers can best go about their work (Easterby-smith et al, 2008). Sekaran (2003) defined research as the process of finding solutions to a problem after studying and analyzing the situational factors. This reflects the importance of research in the pace of acquiring new insights towards reaching good results to inform practitioners with better practices. The rationale for doing research is based on two main reasons (Bryman, 2008):

- When there is a gap in the literature or inconsistencies between a number of studies or an unresolved issue in the literature.
- When there is a development that provides an interesting point of departure for the investigation of a research question.

In general, we undertake research because there is an aspect of our understanding of what goes on which is to some extent unresolved and not understood.

One of the most important things which distinguish usable, rigorous and high-quality research is the methodology. Methodology identifies the particular practices used to attain knowledge (Krauss, 2005) and is defined as a structured set of methods or techniques to assist people in undertaking research or intervention (Mingers, 2003).

Universal Oxford and Webster Dictionaries defined Methodology as “the set of principles, methods, procedures, practices, tools and techniques applied to any specific activity or branch of knowledge”. In turn, if it is applied to do a piece of research then it is called research methodology.

A methodology can be viewed as a system, or a way of organising principles and directions, to act as a guide towards certain aims. Simply, research methodology is the guidelines of how research is done scientifically. Methodology is the combination of chosen methods and techniques to address a particular problem. It draws the path that links the research questions/hypothesis with the research results/conclusions (Yin, 2003). It is the framework that allows findings to be replicated so as to validate them.

Another issue that is worthy of consideration whilst discussing methodology is the philosophical issues that are related to the research. Philosophy is primarily concerned with rigorously establishing, regulating and improving the methods of knowledge creation in all fields of intellectual endeavor, including the field of management research (Chia, 2002). Easterby-smith et al (2008) discussed how philosophical factors can affect the overall arrangements which enable satisfactory outcomes from a research activity. In the pace of producing high quality research, Easterby-Smith et al (2008) identified three reasons for the usefulness of understanding philosophical issues in research:

- It can help to clarify research designs. This not only involves considering what kind of evidence is required and how it is to be gathered and interpreted, but also how this will provide good answers to the basic research questions being investigated in the research.
- It can help the researcher to recognize which designs will work and which will not.
- It can help the researcher identify, and even create, designs that may be outside his past experience. And it may also suggest how to adapt research designs according to the constraints of different subjects or knowledge structures.

The procedures for management research are likely to vary considerably according to the views that the researcher has about the nature of management. If the researcher is interested, for example, in the work-activity view of management, then he/she will be interested in observational methods that provide a structured description of managerial activities and roles within real organizations. If interested, in management as a socially-constructed activity, then the researcher will be more likely to be interested in gathering stories, narratives and conversations about management (Easterby-smith et al, 2008). Thus, the researcher's basic beliefs about the world will be reflected in the way he/she designs the research, and how he/she will collect and analyze the data (Hussy and Hussy, 1997). It is then important and quite useful to understand what are the philosophical positions and the different research paradigms and relate them to researcher interests as this will determine the entire course of the research project.

4.1 Research paradigms:

A paradigm can be defined as the "basic belief system or world view that guides the investigation" (Krauss, 2005). Hussy and Hussy (1997) referred to paradigms as a framework comprising an accepted set of theories, methods and ways of defining data. Paradigms could be identified as the philosophical positions through which management research is carried out. It is unwise to conduct research without an awareness of the philosophical and political issues that lie in the background. The decision to study a topic in a particular way always involves some kind of philosophical choice about what is important (Easterby-smith et al, 2008).

A paradigm is a construct that specifies a general set of philosophical assumptions covering, ontology (what is assumed to exist), epistemology (the nature of valid knowledge), methodology and methods (Mingers, 2003). Table 4-1 provides description to the meaning of the different philosophical constituents (ontology, epistemology, methodology and methods).

Ontology, epistemology, methodology and methods	
Ontology	Assumptions that we make about the nature of reality
Epistemology	General set of assumptions about the best ways of inquiring into the nature of the world
Methodology	Combination of techniques used to inquire into specific situations
Methods	Individual techniques for data collection, analysis, etc.

Table 4-1-Philosophical constituents
(Easterby-Smith et al, 2008).

A paradigm is thus the identification of the underlying basis that is used to construct a scientific investigation; or, "a loose collection of logically held-together assumptions, concepts, and propositions that guide thinking and research" (Krauss, 2005). It could be identified that different paradigms represent different view-points of the nature of reality, how to inquire into that reality and the suitable methods and techniques to do so. Every researcher brings to his/her research a set of interlocking philosophical assumptions and stances (Rocco et al, 2003). Hence, it is important to recognize and understand your personal paradigm as this will guide the entire course of the research project (Hussi and Hussi, 1997).

A paradigm indicates the researcher perception about how social-science research should be conducted. As a general guide, Easterby-Smith et al (2008) identified three different philosophical traditions/paradigms; positivism, critical realism and social constructionism. These paradigms could be seen as a continuum with two contrasting views; positivism and social constructionism taking the two different ends of the scale. It should be noted that the methodology literature identified different terminologies while referring to these two contrasting philosophical paradigms. Some authors distinguished between Positivism and Phenomenological paradigms while others referred to quantitative and qualitative paradigms.

Positivism and social constructionism positions have, to some extent, been elevated into a stereotype, often by the opposing side (Easterby-smith et al, 2008). These paradigms exhibit different views regarding truth; whether it is out there waiting to be discovered or it is constructed within the minds of the individuals and between people in a culture. The following section will cover the three different paradigms in more details.

4.1.1 Positivist paradigm:

The positivist paradigm proposes that the social world exists externally, and that its properties should be measured through objective methods, rather than being inferred subjectively through sensation, reflection or intuition (Easterby-smith et al, 2008). Reality in a positivist paradigm is assumed to be objective and singular and exists outside our perception (Hussi and Hussi, 1997). Positivists believe that facts exist independently of any theories or human observation and that truth is definite and ascertainable. Scientists conduct empirical experiments in laboratories and report what they have discovered as experts.

In the positivist paradigm, the object of study is independent of researchers; knowledge is discovered and verified through direct observations or measurements of phenomena; facts are established by taking apart a phenomenon to examine its component parts (Krauss, 2005). Positivists are likely to be concerned with ensuring that any concept can be operationalized; that is, described in such a way that can be measured (Hussi and Hussi, 1997).

It is a position that holds that the goal of knowledge is simply to describe the phenomena that we experience. The purpose of science is simply to stick to what we can observe and measure. Knowledge of anything beyond that, a positivist would hold, is impossible (Krauss, 2005).

4.1.2 Social constructionism paradigm:

The social constructionist paradigm proposes that reality is dependent on the mind (Hussi and Hussi, 1997) and is socially constructed and is given meaning only by people who are experiencing it (Easterby-Smith et al, 2008). Facts from the social constructivism perspective are a construct of theories and points of view and reality is subjective and multiple as seen by individuals (Hussi and Hussi, 1997). This paradigm holds that both the nature of truth and the inquiry into that truth are problematic because truth is built (or constructed) from the ongoing processes of negotiation, revaluation and refinement of and between individuals.

The idea of social constructionism focuses on the ways that people make sense of the world especially through sharing experiences with others via the medium of language (Easterby-Smith et al, 2008). The constructivist view is that knowledge is context and time dependent and is established through the meanings attached to the phenomena under study and that researchers interact with the subjects of study to obtain data (Krauss, 2005).

Social constructionists believe that the best way to understand any phenomenon is to view it in its context. They see all quantification as limited in nature, looking only at one small portion of a reality that cannot be split or unitized without losing the importance of the whole phenomenon (Krauss, 2005). Social constructionists assume the task of the social scientist should not be to gather facts and measure how often certain patterns occur, but to appreciate the different constructions and meanings that people place upon their experience (Easterby-Smith et al, 2008). Table 4-2 provides a summary for the main differences between the positivist and social constructionist paradigms.

	Positivism	Social constructionism
The observer	Must be independent	Is part of what is being observed
Human interests	Should be irrelevant	Are the main drivers of science
Explanation	Must demonstrate causality	Aims to increase the general understanding of the situation
Research progress through	Hypothesis and deduction	Gathering rich data from which ideas are induced
Concepts	Need to be operationalized so that they can be measured	Should incorporate stakeholder perspectives
Units of analysis	Should be reduced to simplest form	May include the complexity of the whole situation
Generalization through	Statistical probability	Theoretical abstraction
Sampling requires	Large numbers selected randomly	Small number of cases chosen for specific reason

Table 4-2-Contrasting implications of positivism and social constructionism (Easterby-Smith et al, 2008)

4.1.3 Critical realism paradigm:

The critical realism paradigm as a philosophical paradigm has elements of both positivism and constructionism and stems from the idea of compromising the two paradigms. Critical realism or realist paradigm is a philosophy of social science that shares with positivism the belief that there is a reality, both natural and social, which is independent of human knowledge. However, against positivism and with the constructionism paradigm, in that critical realism accepts a subjective epistemology or that knowledge is a product of the mind's interpretive activity and is also socially constructed.

Rather than being supposedly value-free, as in positive research, or value-laden as in interpretive research, realism is, instead, value cognizant; conscious of the values of human systems and researchers (Krauss, 2005). Realism concerns multiple perceptions about a single, mind-independent reality. The concept of reality embodied within realism is thus one extending beyond the self or consciousness, but which is not wholly discoverable or knowable. Realism recognizes that perceptions have certain flexibility and that there are differences between reality and people's perceptions of reality.

Critical realism rejects, however, the assertion, of the strong social constructionist stand, that there is no independent means of establishing the validity of socially-constructed knowledge. There can be different explanations about a given phenomenon but the adequacy of these explanations, in terms of explaining the causes of the phenomenon in question, can be assessed by reference to an independent reality. In other words critical realism accepts epistemic relativity, "all beliefs are socially produced" but not judgmental relativity "all beliefs (statements) are equally valid, in the sense that there can be no (rational) grounds for preferring one to another. A central idea of critical realism is that natural and social reality should be understood as an open stratified system of objects with causal powers. In the first strata is the domain of experiences or the empirical. The second is the wider domain of actually occurring events and 'non-events' or the domain in which causation is actualized but not necessarily experienced or resulting in events. Finally encompassing both these domains is the domain of the real, which contains the objects, which are the source of causation in the world and hence the cause of events. On this understanding an object is real if it has causal power capable of producing effects. This defines the ontology of reality as an open stratified system of natural objects with causal mechanisms, which under some conditions are actualized to produce events, some of which are experienced in the domain of the empirical (Morton, 2006). It is tempting, then, to see the relativist position as a useful compromise that can combine the strengths, and avoid the limitations of positivism and social constructionism paradigms. Nevertheless, the relativist paradigm has its own strengths and limitations too. Table 4-3 highlights the strengths and weakness of the different paradigms (Easterby-Smith et al, 2008):

	Strengths	**Weaknesses**
Positivist	Can provide wide coverage. Potentially fast and economical. Easier to provide justification to polices.	Inflexible and artificial. Not good for processes, meaning or theory generation. Implication for actions not obvious.
Critical realism	Accept value of multiple data sources. Enables generalization beyond present sample. Greater efficiency including outsourcing potential.	Requires large samples. Cannot accommodate institutional and cultural differences. Problems reconciling discrepant information.
Social constructionist	Good for processes, and meanings. Flexible and good for theory generation. Data collection less artificial.	Can be very time consuming. Analysis and interpretations are difficult. May not have credibility with policy makers.

Table 4-3-Strengths and weaknesses in the three main paradigms
(Adapted from Easterby-Smith et al, 2008)

Although it is now possible to draw up comprehensive lists of assumptions and methodological implications associated with each position, it is not possible to identify any philosopher who ascribes to all aspects of one particular view. There are many management researchers who adopt a pragmatic view by deliberately combining methods drawn from both traditions. (Easterby-Smith et al, 2008).

4.2 Research paradigms constituents:

As mentioned earlier each paradigm has its own ontological beliefs, epistemology, methodology and preferred methods. To identify the appropriate research strategy to tackle research questions or propositions, researchers have to specify the ontological and epistemological orientations, the methodology and in turn the suitable method or technique. These choices represent the building blocks for any research strategy as shown in figure 4-1.

Figure 4-1-Research strategy design building blocks
(Adapted from Beech, 2005)

The following section aims to discuss what is meant by ontology, epistemology, methodology and methods.

4.2.1 Ontology:

Ontological choices range along a continuum between objectivity and subjectivity (Hussi and Hussi, 1997 and Beech 2005). Identifying the research ontology requires a personal decision around how the researcher makes assumptions about the nature of reality (the social). Is the world objective and external to the researcher, independent of our mind? Or it does not exist independent of our mind and is socially constructed, and can not be understood by thought, but sensible things, objects that we perceive, can be reduced to ideas in the mind.

Hussi and Hussi (1997) and Beech (2005) identified two main ontological orientations, objective and subjective as shown in figure 4-2.

- Objective ontology (physical sciences approach; deals with facts, causality, fundamental laws, reductionism, measurement and objective reality; the truth holds regardless of who the observer is; aim is to discover what is there)
- Subjective ontology (constructed; the nature of what is there is not solid but shifting; truth depends on who establishes it and facts are all human creations; aim is to understand people's interpretations and perceptions)

Objective Ontology	Subjective Ontology
▪ Focus on facts ▪ Look for causality and fundamental laws ▪ Reduce phenomena to simplest elements ▪ Formulate hypotheses and test them ▪ Operationalize concepts so that they can be measured ▪ Take large samples	▪ Focus on meanings ▪ Try to understand what is happening ▪ Look at the totality of each situation ▪ Develop ideas through induction from data ▪ Use multiple methods establish different views of phenomena ▪ Small samples investigated in depth over time

Figure 4-2-Objective VS Subjective Ontology
(Beech, 2005)

4.2.2 Epistemology:

Epistemology is the study of the criteria by which we can know what does, and does not constitute scientific knowledge (Johnson and Cassell, 2001). It is concerned with the study of knowledge and what we accept as being valid knowledge (Hussi and Hussi, 1997). Krauss (2005) identified that epistemology poses the following questions: What is the relationship between the knower and what is known? How do we know what we know? What counts as knowledge? Similar to ontological choices, epistemological choices range from positivism to realism or social constructionism. Epistemological decisions are around the assumptions that must be made concerning the conceptual procedures by which knowledge of the social may be gained as shown in table 4-4.

Social Science epistemologies			
	Positivism	**Critical realism**	**Social constructionism**
Aim	Discovery	Exposure	Invention
Starting point	Hypothesis	Suppositions/questions	Meanings
Designs	Experiment	Triangulation	Reflexivity
Techniques	Measurement	Survey	Conversation
Analysis/interpretation	Verification/ falsification	Probability	Sense-making
Outcomes	Causality	Correlation	Understanding

Table 4-4-Different assumptions for epistemological choices
(Adapted from Easterby-Smith et al, 2008).

4.2.3 Methodology:

Methodology refers to whether the research is following a deductive or inductive approach. Inductive and deductive research refers to the starting point of the research journey. A deductive approach starts with literature followed by empirical investigation while the inductive approach starts with field data and then links it with previous literature.

Methodology also is concerned with whether the aim is to build a theory or test existing theories. Building theory refers to research where the aim is to establish a theory and test it empirically, modifying the theory till reaching its final form. Theory testing methodology refers to the researches that aim to test an existing theory and verify its validity empirically.

4.2.4 Methods:

Methods refer to the techniques that the researcher employs to investigate/understand certain phenomena. There are varieties of techniques that can be used by the researcher to conduct research to reach answers to the research questions. Each method/technique can be located within different paradigms. As previously mentioned, the decision of using a certain technique and abandoning another is dependent on the researcher's preferences, ontology and epistemology. The nature or type of the research questions, to a great extent, shapes the ontological and epistemological positions for the research. The acceptance of a particular paradigm usually leads the researcher to adopt methods that comprise characteristics of that position.

The following section will discuss briefly some of the available methods/techniques that are available to management researchers. However, the purpose is not giving a detailed discussion around all these methods but rather highlighting the main features and characteristics of each method.

4.2.4.1 Experimental method:

Classical experimental methods involve an attempt by the researcher to maintain control over the factors that may affect the result of an experiment (Gray et al, 2007). It involves random assignment of subjects to an experimental and control group. Conditions for the experimental group are then manipulated by the researcher; only the experimental sample is exposed to the manipulated variable in order to assess the effect in comparison with members of the control group who are receiving no unusual conditions. The researcher then compares the pre-test results with the post-test results for both samples. Any divergence between the two samples is assumed to be a result of the experiment (Kalof et al, 2008).

In study of social and human life, experiments are quite popular among psychologists. In management studies, it is very hard to conduct experiments within real organizations as it is rarely possible to conduct true experiments with randomization.

4.2.4.2 Quasi-Experimental method:

The term “experiment” usually implies a controlled experiment, but sometimes controlled experiments are prohibitively difficult or impossible. In this case the researcher may resort to quasi experiments. Quasi experiments rely solely on observations of the variables of the system understudy, rather than manipulation of just one or a few variables as occurs in controlled experiments. Individuals in quasi experiments are not allocated randomly to the treatment group and the control group, but rather allocation takes place on some other criterion, usually by using intact groups (Kalof et al, 2008).

One of the most common methods used is the pre-test/post-test comparison design. In this design, the effect of a certain intervention on a group might be evaluated before and after the intervention and by comparing the differences with those of a similar group who were not affected by the intervention but are evaluated in the same way at the same time as the first group.

4.2.4.3 Survey method:

Survey research involves the collection of information from individuals about themselves or about the social units to which they belong. The survey sample process determines information about large populations with a known level of accuracy. Researchers often distinguish between exploratory, confirmatory (theory testing) and descriptive survey research (Forza, 2002).

Exploratory survey research takes place during the early stage of a research phenomenon. Confirmatory survey takes place when knowledge of a phenomenon has been articulated in a theoretical form using well-defined concepts, models and propositions. Descriptive survey research is aimed at understanding the relevance of a certain phenomenon and describing the distribution of the phenomenon in a population (Forza, 2002). Generally, Yin (2003) identified that survey research is appropriate when the researcher has a high control over the situation and when the research aims to answer a who, what, where, how many or how much questions.

4.2.4.4 Action research:

Action research assumes that social phenomena are continually changing rather than static (Huxham and Vangan, 2003). With action research, the researchers are often part of the change process itself. The following two beliefs are normally associated with action-research designs (Eden and Huxham, 2002):

- The best way of learning about an organization or social system is through attempting to change it, and this, therefore, should be an objective of the action researcher.
- The people most likely to be affected by, or involved in implementing these changes should, as far as possible become involved in the research process itself.

4.2.4.5 Cooperative inquiry:

As identified by Oates (2002), cooperative inquiry has been developed for researching human action mainly at individual and community, rather than organizational levels. It starts with the idea that all people have, at least latently, the ability to be self directing, to choose how they will act and to give meaning to their own experiences. It rejects traditional positivist methods where people are studied as if they were objects under the influence of external forces. Cooperative inquiry not only focuses on the experiences and explanations of the individuals concerned, it also involves them in deciding in the first place what questions and issues are worth researching. Thus the subjects become partners in the research process.

4.2.4.6 Case study research:

Case study as a research strategy is defined as an empirical inquiry that investigates a phenomenon within organizational settings. Yin (2003) identified case study research as an empirical inquiry that investigates a contemporary phenomenon within its real-life context especially when the boundaries between the phenomenon and context are not clearly evident.

In other words, you would use the case study method because you deliberately wanted to cover contextual conditions, believing that they might be highly pertinent to your phenomenon of study. Case study method allows researchers to keep the holistic and significant characteristics of real-life events. It is an in-depth investigation/study of a single individual, group, incident or community. Case research provides a systematic way of looking at events, collecting data, analyzing information, and reporting the findings (Yin, 2003). As a result, the researcher may gain a sharpened understanding of why the instance happened as it did, and what might become important to look at more extensively in future research.

Case study research comprises single and multiple case studies, can include both qualitative and quantitative evidence, relies on multiple sources of evidence and benefits from the prior development of theoretical propositions.

4.3 Research Design:

Research design is about selecting the most appropriate strategy to tackle the research questions and consequently provide valid answers to the research questions. Selecting the appropriate research strategy requires understanding the nature of the research, research questions, aim of the research, and the researcher's philosophical orientation. Figure 4-3 highlights the key decisions that the researcher should take to identify the appropriate research strategy.

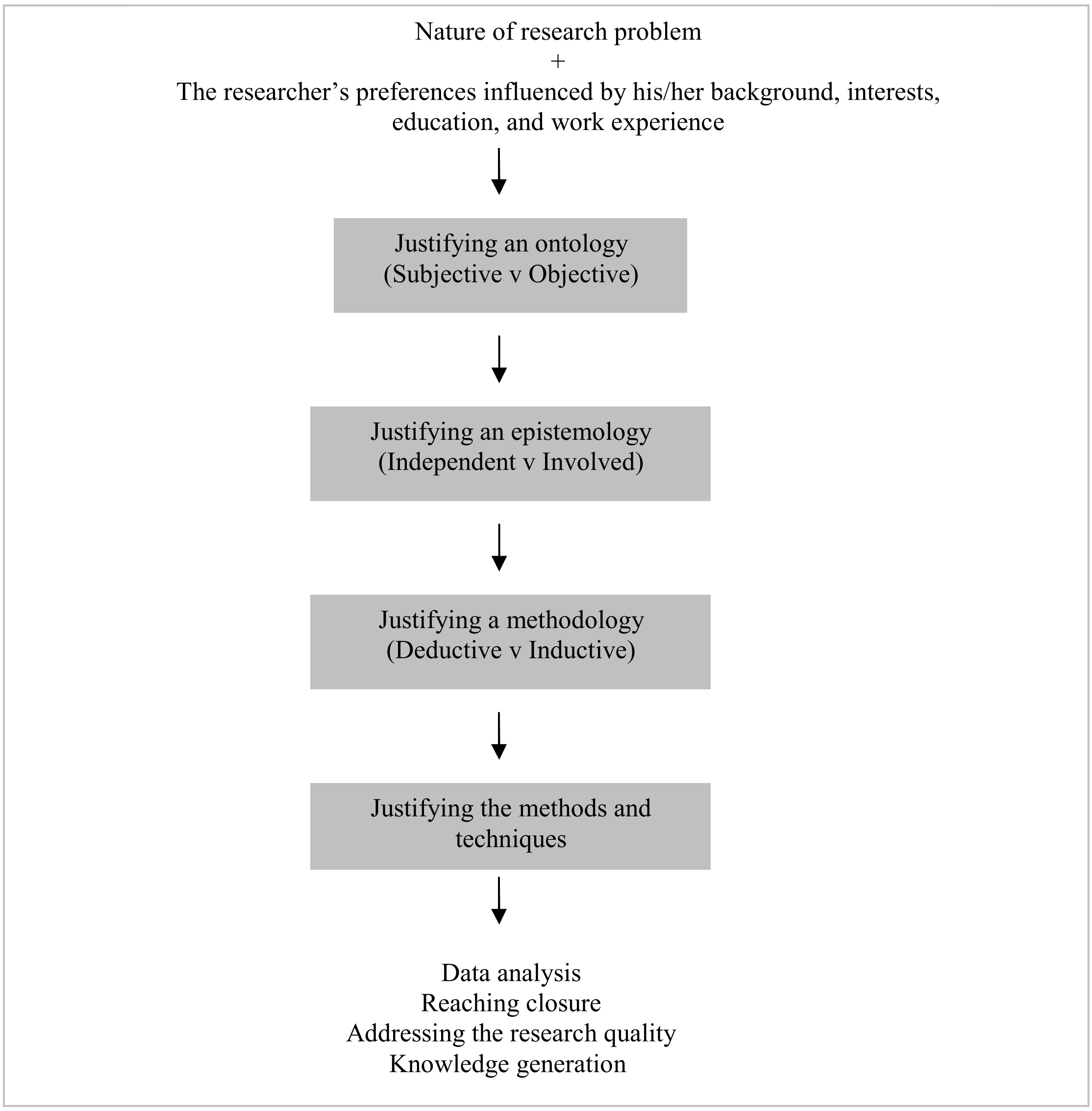


Figure 4-3-Research design activity map
(Adapted from Beech, 2005)

4.3.1 Nature of the research and the research questions:

This research started with some unstructured exploratory interviews with consultants and practitioners. The aim behind the interviews was to explore collaborative relations within supply chains. Through the initial literature review (chapter Two), it could be acknowledged that earlier studies identified that sufficient returns, commitment, trust, collaborative culture and market dynamics play significant roles in collaborative ventures. However, there is much debate among previous studies about the role that differences in power levels play over collaborative relations. Besides, there are few studies discussing the effect of variation in innovation levels on collaborative relations. Hence, this research project aims to understand how collaborative relations are formed and maintained in supply chains. Besides, the research aims to understand how partners could identify a suitable level for their interactions in collaborative ventures.

To better understand collaborative relations, this research explores two different constructs; collaborative potential and collaborative intensity (identified earlier in chapter two). This was followed by an in-depth literature review around these two constructs. Undertaking a review of the literature is an important part of any research project. The researcher both maps and assesses the relevant intellectual territory in order to specify a research question which will further develop the knowledge base (Tranfield et al, 2003). The researcher applied the concept of a systematic literature review to identify high-quality literature. A systematic literature review involves two processes (Easterby-Smith et al, 2008):

- Defining review protocols and mapping the field by accessing, retrieving, and judging the quality and relevance of studies in the research areas.
- Reporting the findings to identify where gaps in the current research exist and so indicate where the research might make a useful contribution.

This was done through preparing a review protocol and scoping study (Tranfield et al, 2003). The aim was to identify high quality relevant literature to clearly understand the dimensions affecting the business partners' relation within collaborative relationships.

After the literature review phase, the researchers were able to raise the research questions identified early in chapters two and three. Besides, the research develops a conceptual framework that draws the interrelations between the different factors that affect collaborative potential and intensity.

Although it can be viewed, to a certain extent, that the starting point was real world data rather than literature, the researcher considers the literature as the actual starting point of this research. Hence, this research follows a deductive methodology rather than inductive one. Besides, the research aims to build a theory around collaborative relations' formation and depth of interactions between partners. Hence, this research could be classified as an exploratory, deductive and theory-building research. The exploratory nature of this research stems from the type of the main research question and from the research objectives. The exploratory strategy is appropriate where the research aims (Martinez-Hernandez, 2003):

- to develop precise formulation of a vague problem or opportunity
- to gain a new perspective of the variables involved in the situation
- to establish priorities on the potential problems based on significance
- to gain management and research perspective concerning the character of the problem situation
- to identify and formulate an alternative course of action.

4.3.2 Philosophical choices:

The second determinant for selecting appropriate research strategy is the philosophical orientation. Philosophical choices of research involve choices regarding the ontological and epistemological orientation of the research. Easterby-Smith et al (2008) highlighted the importance of these philosophical issues and identified that failure to think through these issues, such as the relation between data and theory, while not necessarily fatal, can seriously affect the quality of management research.

4.3.2.1 Ontological choice:

Following (Hussi and Hussi, 1997) argument that ontological orientation affects the researcher choices and decisions allover the research process, it deemed valuable to identify the researcher ontological orientation. To identify the ontological orientation is of great difficulty and is totally affected by the researcher's educational background and experience. The engineering back-ground of the researcher resulted in much acknowledgement to objectivity and reducing things to it simplest form as the best for inquiry. However, the researcher's working experience as a management consultant led to recognition of subjectivity and acknowledgment of experiences that people add to different social situations. The close link between management and human that are managing cannot be ignored while discussing the ontology in the social sciences.

From the preceding discussion, the researcher feels that reality generally exists independently of how we perceive it. This makes the researcher more skewed to the objective ontology with appreciation of the subjective ontology.

4.3.2.2 Epistemological choice:

As previously mentioned in section (4.2.2), the researcher epistemological orientation is determined in accordance to the researcher assumptions about the best way of inquiring into the nature of the world; what does or does not constitute scientific knowledge (Easterby Smith et al, 2008). The researcher believes that there is reality, both natural and social independent of human knowledge. The researcher believes as well that knowledge is the product of the mind's interpretative activity and is socially constructed. Besides, the researcher is conscious that there are differences between reality and people perception of reality.

Besides, the study of collaborative intensity and the exploration of the role that difference in power and variation of innovation levels between business partners require the researcher to be independent to have a real opportunity to assess the real situation. The exploratory orientation of this research requires deeper understanding for collaborative relations and the role of power and innovation over collaboration. In addition, this research intends to deal with context through sense making rather than objective real world out there.

Although social constructionism and positivist are valid epistemological choices, they are not applicable for this research. The reason for this is that positivism epistemology are not conscious with the notion that people perceptions of reality differs while the social constructionism epistemology have strong believes that there is no reality independent of the researchers' mind. Hence, critical realist epistemology selection is appropriate to address this research questions. Critical realist can be "seen as useful compromise which can combine the strengths and avoid the limitations of positivist and constructionist paradigms" although it has its own strengths and weaknesses too (discussed in Table 4-3). The major strong points are that it recognizes the value of using multiple sources of data and perspectives. Figure 4-4 summarizes the research design map proposed by Beech (2005) that link ontological, epistemological and methodological research stances with the preferred techniques to provide valid answers to the research questions.

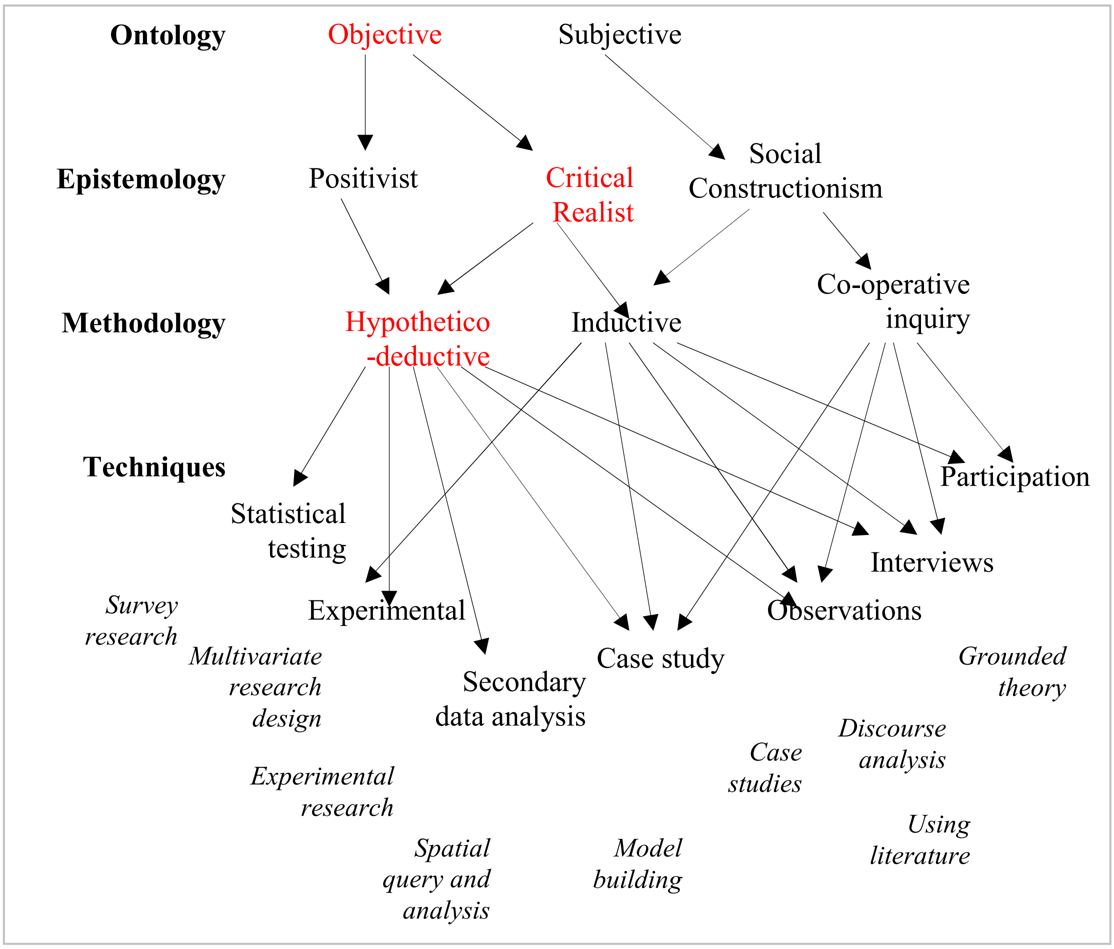


Figure 4-4-Research design map
(Adapted from Beech, 2005)

4.4 Selected research strategy/technique:

The choices of ontology and epistemology usually guide the researcher's choices of suitable methods/techniques to be used to answer the research questions. An objective ontology, a critical realist epistemology and a deductive methodology are deemed to be the most appropriate for this research as explained in the previous sections.

Referring to Beech (2005) research design map, it could be identified that case study research among other methods (e.g. survey method) are deemed to be valuable potential strategies to tackle the research questions.

This research could be classified as an exploratory theory building research. Voss, et al (2002) identified that case research has consistently been one of the most powerful research methods in operations management, particularly in the development of new theory. A case study is a history of a past or current phenomenon, drawn from multiple sources of evidence. It can include data from direct observation and systematic interviewing as well as from public and private archives. In fact, any fact relevant to the stream of events describing the phenomenon is a potential datum in a case study, since context is important (Voss et al, 2002)

Unconstrained by the rigid limits of questionnaires and models in terms of providing in depth investigation to the phenomena under examination, case studies can lead to new and creative insights, development of new theory, and have high validity with practitioners; the ultimate user of research (Voss et al, 2002). In addition, Eisenhardt and Graebner (2007) highlighted that building theory from cases is likely to produce theory that is accurate, interesting, and between stable. Survey may provide broader picture for the relation between existing factors however it can not provide new insights for relations and it can not provide answers to the how and what questions.

This research aims to understand *how* collaborative relations are formed and *how* partners determine the appropriate level of their collaboration. Yin (2003) identified that case studies are the preferred strategy when how or why questions are being posed, when the investigator has little control over events and when the focus is on a contemporary phenomenon within some real-life context.

The importance of case study research stems from both being good at investigating how and why questions as well as being particularly suitable for developing new theories and ideas (Voss et al, 2002). Case research is widely used in several management disciplines, notably organizational behavior and strategy (Voss et al, 2002). Meredith (1998) cites three outstanding strengths of case research:

- The phenomena can be studied in its natural setting and meaningful, relevant theory generated from the understanding gained through observing actual practice.
- The case method allows the questions of why, what and how, to be answered with a relatively full understanding of the nature and complexity of the complete phenomena.
- The case method lends itself to early, exploratory investigations where the variables are still unknown and the phenomenon not at all understood.

Case studies are rich, empirical descriptions of particular instances of a phenomenon that are typically based on a variety of data sources (Eisenhardt and Graebner, 2007). The central notion is to use cases as the bases from which to develop theories. The theory is emergent in the sense that it is situated in and developed by recognizing patterns of relationships among constructs within and across cases and their underlying logical arguments (Eisenhardt and Graebner, 2007).

In the context of this research, case study strategy was chosen by the researcher to test, verify and modify the developed conceptual model until it reaches its final form through multiple cases. Case study research provides in-depth investigation to the relations between collaborative business partners and the factors that may affect the success of the relation. It allows the researcher to fully understand the different factors within organizational settings and to draw conclusions based on real world data.

As collaboration is based on the decisions and behaviours by individuals and groups within and between organizations (is mainly based on human interactions and acceptance to deal with partners and identifying the best way to manage the relation), case study research can be seen as the best way to assess a certain phenomenon within its context.

To conclude, the researcher opts for case study strategy in this research particularly because the researcher initially believes that the case study method would be more advantageous considering the exploratory nature of the research questions. Also, case study research is gaining popularity in management research recently because it creates small-scale and context-specific implications and conclusions rather than universal findings. This approach suits more to today's research setting (Eisenhardt, 1989).

4.5 Selected research paradigm:

Finally, it was deemed valuable to assess the research paradigm considered suitable for this research. As previously mentioned, this research is an exploratory theory building research that starts from general to the specific. In addition, the research questions for this research are "How" and "What" questions.

It could be identified that this research fits in the critical realism paradigm. Figure 4-5 provides a description for the different choices that comprise this research paradigm.

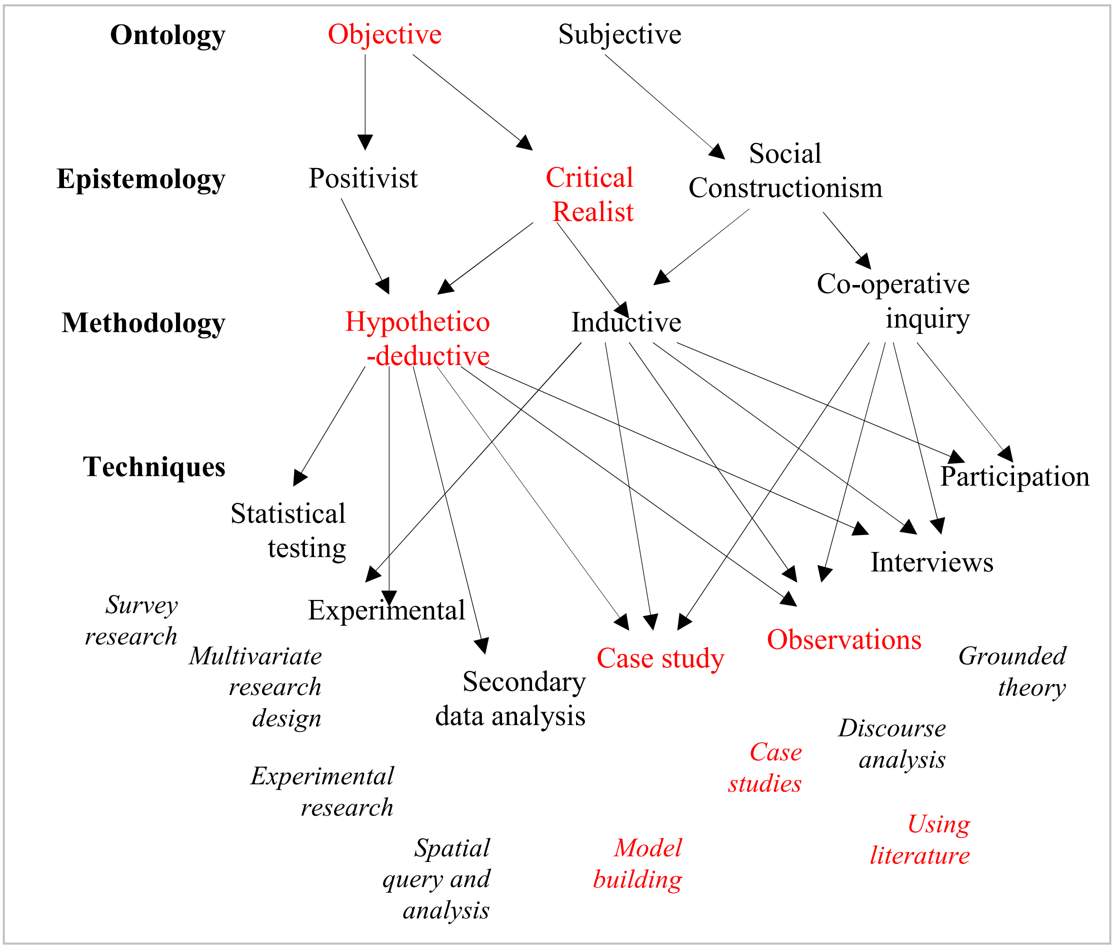


Figure 4-5-Research design choices

4.6 Summary:

The objective of this chapter was to clarify the concept of research methodology and its implications in conducting high-quality management research. The different research paradigms, as well as the characteristics of each paradigm and the associated philosophical positions, were described. It is suggested that the appropriate research strategy should be identified based on the research aim, proposition, questions, constructs and the philosophical preferences of the researcher.

To this end, this chapter identified critical realism as the most suitable paradigm for this research. In addition, this chapter justified the use of case study research as the most appropriate strategy to fulfill the research aim and provide answers to the research questions.

5. Research design

Every type of empirical research has an implicit, if not explicit, research design. A research design is the logic that links the data to be collected to the initial questions of the study, and ultimately to its conclusion. It is a logical plan for getting from here to there, where "here" may be defined as the initial set of questions to be answered, and "there" is some set of conclusions (answers) about these questions. Between here and there may be found a number of major steps, including the collection and analysis of the relevant data (Yin, 2003). Hence, this chapter tackles the issue of research design in the context of this study.

5.1 Components of research design

For case studies, five components of a research design are especially important (Yin, 2003):

1) A study question
2) Its propositions
3) Its unit of analysis
4) The logic linking data to the propositions
5) The criteria of interpreting the findings

It is highly recommended to construct a preliminary theory related to the research topic in order to effectively fulfill the preceding five components of research designs (Yin, 2003). It is wise to have a prior view of the general constructs and concepts under investigation and their relationships (Voss et al, 2002). Hence, the starting point for case study research is the research framework, constructs, and questions (Voss et al, 2002). Generally, the research framework, constructs and questions are built on the objectives of the study and the existing literature as well. It should be noted that developing a framework and determining research questions is essential whether the study intends to develop a new theory or test/refine an existing theory.

The first and second components of the research design (for this research) and the development of a theoretical framework, constructs and research questions were explored in chapters two and three based on the systematic literature review.

The third component of the research design is related to the problem of what the case is; the research unit of analysis. The research unit of analysis could be identified as the object, event, entity, individual, decisions, programs, implementation process, etc under investigation and stems directly from the research questions and constructs. Thus, this research unit of analysis is the dyadic relationship between business partners in supply chains. This dyadic relationship is considered a major indicator to the relation between various supply chain partners, as supply chains comprise various dyadic relations between partners. It should be noted that investigating a collaborative venture formation and depth requires understanding the different views of collaborating partners. Hence, this research aims to assess collaborative relations from both view sides of business partners.

The fourth and fifth components in the research design process are related to the collection and analysis of data and evaluation of the findings from the case studies. These components will be discussed later in this chapter.

From the preceding discussion it could be concluded that once research framework, constructs and questions are elaborated, it will allow the researcher to clearly specify the research questions, propositions and unit of analysis (the first three components of a research design).

5.2 Case study design:

Case study design is about planning how you are going to address the study and make sure that all collected data is relevant. It involves three key decisions that the researcher has to think about once he decided to start the empirical investigation; case selection, data collection and data analysis.

5.2.1 Case selection:

There are two fundamental decisions confronting researchers in identifying candidate cases; how many cases to include and how to select cases to address the research questions. Generally, the number of cases could be differentiated as single-case versus multiple-cases design.

The major determinant in selecting a single case strategy is the degree of resources availability. The single case study is an appropriate strategy under five circumstances (Yin, 2003):

- when it represents a critical case in testing a well formulated theory;
- when the case represents a unique case;
- when it is a representative or typical case;
- when it is a revelatory case;
- when it is a longitudinal case.

It could be identified that once the rationale for single-case designs could not be substantiated; it will be wise for a researcher to switch to multiple-cases design. Although multiple-cases design has advantages and disadvantages, the evidence from multiple cases often provides more compelling evidence, the overall study is regarded as being more robust (Yin, 2003) and it provides better opportunity to generalize research findings (improving external validity). Thus, this research adopts a multiple-case study design to provide more rigorous research.

In multiple case studies, a vital question is how cases are selected. As Yin (2003) identified, every case should serve a specific purpose within the overall scope of inquiry (Yin, 2003). The logic underlying case selection in multiple case studies is either to predict similar results (a literal replication) or to predict contrasting results for predictable reasons (theoretical replication) (Yin, 2003). In this research study, the researcher decided to deploy a mixed strategy so as to select four cases that predict similar results (literal replications) and another one case that predicts contrasting results (theoretical replication). The main aim behind this mixed strategy is to highlight the effect of the different factors over collaborative relations through replicating findings across four collaborative cases, then contrasting collaborative vs. non-collaborative relations across the fifth case. The reasons for cases inclusion in the study will be elaborated later in this chapter.

As this research aims to examine dyadic relations, the selection for suitable candidate cases for this research study was undertaken in a two-step basis. The first step is to select the first partner of the dyad while the second step is determining, with the aid of the first partner, another organization to participate as the second side of the dyad.

The potential first partner in a dyad was identified through two main sources; Strathclyde Institute for Operations Management, University of Strathclyde and Industry Modernization Center (IMC) in Egypt. Both parties were involved in providing a number of potential partners. The IMC used their members' list of those undertaking collaborative projects while Strathclyde Institute for Operations Management, University of Strathclyde used its list of customers who participated in supply chains consultation projects with the Institute. The potential partner companies (first side of the dyad) were screened and actual partners were selected based on recommendations from Strathclyde Institute for Operations Management and the IMC. The main criteria for selecting the first side of the dyad were to select manufacturing companies that have been involved in collaborative work with one or more of their partners. In this research the main aim is to investigate how collaborative business relations are formed and how partners identify the degree of interactions. The researcher is particularly interested in manufacturing companies and in assessing supplier-manufacturer relationships due to the researcher's close contacts with manufacturing companies (as an industrial engineering consultant) as well as the researcher's postgraduate educational background as an Industrial Engineer.

The potential partner companies were contacted through an e-mail via either Strathclyde Institute for Operations Management or directly by the researcher. This e-mail included a short description of the research and the exact involvement needed if they participated in the study. Once the partner decided to participate, the researcher jointly with the partner identified the second side of the dyad to be included in the study.

Based on the research conceptual model and constructs, the characteristics of dyads that are used as criteria for selecting the case companies are as follows:

- willingness to participate in the study;
- to be a manufacturing company as the researcher is interested in studying supplier-manufacturer relations;
- the presence of close relation between the two sides (for around 3 years of continuous business relation);
- the presence of a high amount of business transaction between the two partners.

Table 5-1 shows which case dyads were selected to take part in this study, and why each of the cases has been deemed suitable for inclusion within this study.

Case study dyad	**Reason for inclusion**
Case A **(Partners A1-A2)**	The presence of collaborative relation between the two companies for more than three years places them as a good example for collaborative relations.
Case B **(Partners B1-B2)**	A supplier development program initiated by B1 provides a typical example for collaborative relations. Besides the classification of suppliers as gold, silver and bronze will provide a good opportunity for assessing the potentiality and intensity factors and their effect over collaboration (literal replication).
Case C **(Partners C1-C2)**	A supplier development program initiated by C1 provides a typical example for collaborative relations. Besides the classification of suppliers as gold, silver and bronze will provide a good opportunity for assessing the potentiality and intensity factors and their effect over collaboration (literal replication).
Case D **(Partners D1-D2)**	The joint and collaborative efforts and the long history of collaborative work between the two companies to produce a new and innovative product provides a good example for long-term collaborative work and allows for assessing the effect of joint innovation over collaborative relations.
Case E **(Partners E1-E2)**	This dyadic relation is a good example for non-collaborative but close customer/supplier business relation. This dyadic relation provides good opportunity to compare collaborative and non-collaborative relations.

Table 5-1-Selected case study dyads

Once the case companies are selected the next step is to design for collecting data that will be used to answer the research questions.

5.2.2 Data collection

Data collection in this case study research mainly consists of two main steps; preparation for data collection and the means for data collection or collecting the evidence.

During the preparation for data collection, the researcher developed case study protocol to serve both as a prompt for the interview and as a guide to make sure that all topics have been covered (see appendix II). Typically, a case study protocol should include an overview of the case project, field procedures, case study questions and a guide for the case study report (Yin, 2003). The protocol comprises the instrument as well as the procedures and general rules to be followed while gathering the needed information from case studies. In addition, it indicates who or from where different sets of information are to be sought (Voss et al, 2002). Designing case study protocols is very useful and helpful in conducting multiple case studies and collecting data in a reliable and repeatable manner. As a final preparation step for data collection, the research conducted a pilot case study to try the suitability of the protocol. This helped in refining data collection plans with respect to both the content of the data and the procedures to be followed (Yin, 2003). After the preparation of a case study protocol and a pilot case trial, it is time for the actual collection for field data; collecting the evidence.

In general, there are several available instruments that researchers can use to collect field data from case studies organizations. Yin (2003) identified that evidence for case studies may come from six sources; each one is associated with some weaknesses and strengths. The six sources and the weaknesses and strengths will be shown in table 5-2:

While Voss et al (2002) identified that usually interviews are extensively used in collecting data in case study research, he identified triangulation as an underlying principle in collection of data in case study research; the accumulation of multiple entities as supporting sources of evidence to assure that the facts being collected are indeed correct (Meredith, 1998). In this research project, the main data collection methods used were interviews, documentation and direct observations.

Source of evidence	Strengths	Weaknesses
Documentation	▪ Stable-can be reviewed repeatedly ▪ Unobtrusive-not created as a result of the case study ▪ Exact-contains exact names, references, and details of an event	▪ Retrievability- can be low ▪ Biased selectivity, if collection is incomplete ▪ Reporting bias-reflects bias of author ▪ Access-may be deliberately blocked
Archival Records	▪ Same as above for documentation ▪ Precise and quantitative	▪ Same as above for documentation ▪ Accessibility due to privacy reasons.
Interviews	▪ Targeted-focuses directly on case study topic ▪ Insightful-provides perceived causal inferences	▪ Bias due to poorly constructed questions ▪ Inaccuracies due to poor recall ▪ Reflexivity-interviewee gives what interviewer wants to hear
Direct Observations	▪ Reality-covers events in real time ▪ Contextual-cover context of event	▪ Time consuming ▪ Selectivity-unless broad coverage ▪ Reflexivity-event may proceed differently because it is being observed ▪ Cost-hours needed by human observers
Participants observation	▪ Same as above for direct observations ▪ Insightful into interpersonal behavior and motives	▪ Same as above for documentation ▪ Bias due to investigator's manipulation of events
Physical Artifacts	▪ Insightful into cultural features ▪ Insightful into technical operations	▪ Selectivity ▪ Availability

Table 5-2- Six sources of evidence for case study research
Yin (2003)

Interviews are one of the most important sources of case study information (Yin, 2003). It appears to be a guided conversation rather than structured queries. There are many ways in which an interview can be conducted and evidence gathered. Interviews can be un-structured, semi-structured or highly structured resembling a questionnaire (Voss et al, 2002). The effectiveness of case research is much dependent on the skills of the interviewer. A skilful interviewer must ask good questions, be a good listener, have a good understanding of issues being studied and avoid any preconceived notions from theory. In this research project, the researcher conducted several semi-structured interviews with key managers to discuss their collaborative relations with the other side of the dyad. The interviews, where possible, were digitally recorded.

Documentation takes many forms, letters, memoranda, agendas, administrative documents (proposals, progress reports, etc), formal studies and articles appearing in media. It should be noted that collecting documents requires high levels of trust between the case company and the researcher, to disclose confidential information. So, understandably, a number of companies were reluctant to give copies of their documentation.

By making a field visit to the case study site, the researcher has had the opportunity for some direct observations. In some cases, some relevant behaviors or environmental conditions may serve as another source of evidence in case studies (Yin, 2003).

Table 5-3 provides a brief description of what actually happened in the interviews. The table identifies who was interviewed, date and duration of the interviews and the different types of documentation provided by the case companies as well as general questions posed in the interviews (for further description see case study reports Appendix III). In addition, it provides a summary for the questions discussed during the interviews (for the full list of questions, see appendix II case study protocol).

	Companies	Interviewees	Date	Duration	Documents	Questions asked
First Dyad (Case A)	A1	Operations Director	27/1/09	2 hrs	Web site Stock reports Organization charts observations	How do you assess your relation with your partner? How do you assess your company's commitment to the relation? How can you demonstrate this commitment? How do you assess the prevailing culture in your organization? What is the effect of this culture over your relation with your partner? Do you perceive the relation with your partner as a trustworthy relation? Why? Do you think that power differences affect collaborative relations? How? What is the effect of the market over your relation with your partner? Do you think that innovation affects collaborative relations? How?
	A2	General Manager	10/2/09 11/2/09	1 hr		
Second Dyad (Case B)	B1	Regional supply manager (raw materials)	8/1/09 18/3/09 18/5/09	3 hrs	Web site Minutes of meetings Organization charts	
	B2	CEO	9/5/09	1 hr		
Third Dyad (Case C)	C1	Assistant packaging material supply manager.	18/3/09 23/5/09	2hrs	Web site Minutes of meetings Organization charts observations	
		Regional packaging material supply manager.	18/5/09	30 min		
	C2	Managing Director	28/5/09	45 min		
		Plant Manager	28/5/09	1 hr		
Fourth Dyad (Case D)	D1	Operations Director	2/11/09 10/11/09	2 hrs	Web site Organization charts observations	
	D2	Continuous Improvement Manager	2/11/09	90 min		
Fifth Dyad (Case E)	E1	Operations Director	2/11/09 10/11/09	45 min	Web site Organization charts	
	E2	Key account manager	2/11/09	45 min		

Table 5-3- Summary for data collection

5.2.3 Data analysis method

Miles and Huberman (1994) defined analysis as consisting of three concurrent flows of activity: data reduction, data display and conclusion drawing/verification.

Data reduction is a form of analysis that sharpens, sorts, focuses, discards and organizes data in such a way that final conclusions can be drawn and verified. Qualitative data can be reduced and transformed in many ways: through selection, through summary or paraphrase, through being coded and subsumed in a larger pattern or category, and so on. Categorizing or coding data could be done either manually using Miles and Huberman (1994) tables and matrices or with the aid of software packages (e.g. N-Vivo). In this research, the conceptual model and the case study protocol played a significant role in structuring the interview data and classifying them into categories. Although N-Vivo could be seen as a potential way of categorizing data, the predetermined structure in collecting the data make it less valuable. It should be noted that in an unstructured environment, N-Vivo would be a more effective strategy to identify emerging codes. In addition, displaying data (manually) from quite limited number cases allows the researcher to identify patterns across the examined dyads without the need for software packages. In this research project, the researcher started data reduction through writing-up a compelling case study report that is clear to the reader. The report identifies, in one complete document, the main points from the interviews, tape recordings, field notes, observations and documentary evidence that are pertinent to the research questions, constructs and framework (See Appendix III). The case study report was then used as the raw data for the data analysis phase of this research.

The second major flow of analysis activity is **data display**. Generally, a display is an organized, compressed assembly of information that permits conclusion drawing and action. Miles and Huberman (1994) identified that better displays are a major avenue to valid qualitative analysis. Generating formats for displaying qualitative data fall into two major families: matrices, with defined rows and columns, and networks or maps, with a series of nodes with links between them (Dey, 2005). Generally, displays can be simple arrays, but might also be event listings, critical incident charts, networks, time ordered matrices, taxonomies, etc (Voss et al, 2002).

The third stream of analysis activity is **conclusion drawing or analysis**. Once an array or display has been constructed, the researcher should begin looking for explanations and causality (Voss et al, 2002). Analyzing data is the most difficult and the least codified part of qualitative studies. Several authors identified the importance of undertaking both within-case and cross-case data analysis for analyzing data in qualitative studies (Eisenhardt, 1989; Yin, 2003; Miles and Huberman, 1994; Voss et al, 2002).

5.2.3.1 Within-case analysis

The main objective of within-case analysis is to make the investigator become familiar with each case as a stand-alone entity and to allow unique patterns of each case to emerge before generalizing patterns across cases (Eisenhardt, 1989).

In this research, the within-case analysis technique is driven by the research questions, constructs and the developed model. The main aim behind the research questions in this research is to understand the factors, and their interrelations, that affect the formation process and intensity of collaborative ventures. Hence, during the data analysis, the researcher aims to understand the factors that affect partners' potentiality to collaborate as well as the factors that determine the intensity of their collaboration.

The analysis starts with a narrative discussion to compile both sides of a dyad point of view regarding the different factors that affect their relation formation and intensity. The role of the narrative is to provide a description and explanation of what is happening within the relation, what affected the formation of the relation and what determined their interaction and therefore what happened within the case. The narrative discussion is contrasted against previous literature to identify what supports/contradicts/extends previous studies as well as exploring new relations and how they affect collaborative enterprises.

Once the narrative is constructed, a detailed map is drawn. The role of the map is to depict the interrelations between potentiality and intensity factors and their effect over collaborative potential and intensity. Miles and Huberman (1994) highlighted the role of combining maps and narrative in providing better analysis and better results. Mapping, flow charting and matrices are used in qualitative research to provide a graphic display for what is happening within the data. There are a number of different types of displaying qualitative data that facilitates within-case description and analysis. These may include partially ordered displays, time ordered displays, role-ordered displays, and conceptually ordered displays (Miles and Huberman, 1994).

Miles and Huberman (1994) discussed the different displaying forms in details. They identified that partially ordered displays aim to uncover and describe what is happening in a local setting. They impose minimal conceptual structure on the data they display. Time ordered displays orders data by time or sequence, presenting the chronological flow and permitting a good look at what led to what and when. Role ordered displays presents information according to people's roles in a formal or informal setting. In addition, they discussed conceptually-ordered displays as a mode of ordering the display by concepts or variables to capture inter-linkages between different themes and concepts.

This research is using conceptually-ordered maps to allow displaying relations and interrelations between the different factors that affect collaborative relations' potential and intensity. It is important to note that the researcher opted conceptually ordered maps instead of cognitive maps because cognitive maps captures the interrelations between the different factors while conceptually ordered maps captures both the interrelations and the sequence of events (Miles and Huberman, 1994; Tyler, 2001). It should be noted that drawing a map for the fifth dyad will not be of much value as this is a non-collaborative relation. The first step in constructing the maps was to read through the case study reports and the case discussion. Conceptually-ordered maps in this research comprise nodes and boxes connected together by arrows. The nodes represent the factors that affect collaborative potential and collaborative intensity while the boxes represent important incidents that affect the relation and the factors. The arrows or links have the meaning of 'is affecting'. The format for the map is built from the conceptual framework and the learning from the relevant literature. The map includes four layers of concepts, i.e. collaborative opportunity, collaborative readiness followed by intensity factors and finally the actual degree of interaction and the joint activities undertaken in this collaborative venture. The maps are produced from the case study discussion (narrative discussion) as well as the case study reports and are arranged coherently to allow careful comparison of differences and noting down of patterns and themes.

The maps are then used to develop interrelations tables between potentiality and intensity factors to highlight how they affect/manipulate each other either positively or negatively.

The narrative discussion, the maps and the interrelations table will then be used to identify key learning points from each case. The key learning points comprise issues that support previous literature, contradict with previous literature, extend previous studies and finally issues that are not well developed by previous studies and are identified (based on case findings) as affecting collaborative ventures. Figure 5-1 provides graphical description to the different phases of the within-case analysis adopted in this research.

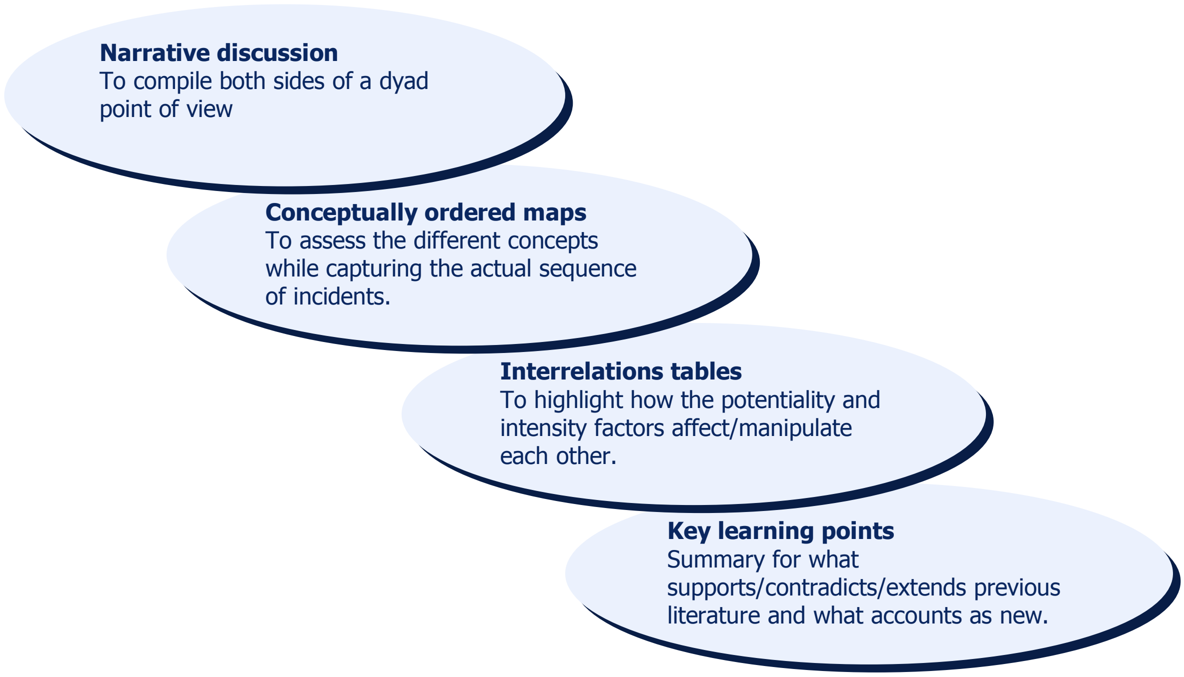


Figure 5-1-Different phases of the within-case analysis

5.2.3.2 Cross-case analysis

The systematic search for cross-case patterns is a key step in case research (Voss et al, 2002). Cross-case analysis is about studying several individual cases with the aim of identifying patterns across the cases, hence drawing more generalizable conclusions about the phenomena under examination (Bryman and Burgess, 2002). Cross-case analysis forces the investigator to go beyond initial impressions and improves the likelihood of developing accurate and reliable theory (Eisenhardt, 1989). At a deeper level, the aim is to see processes and outcomes across many cases, to understand how they are qualified by local conditions, and thus to develop more sophisticated descriptions and more powerful explanations. Besides, cross-case analysis aims at deepening understanding and explanations, hence reassuring that the events and the processes in one well-described setting are not wholly idiosyncratic.

Eisenhardt (1989) and Miles and Huberman (1994) identify numerous techniques for cross-case analysis; the simplest and often most effective method is to construct a visual display of the data so that the researcher can draw valid conclusions (Voss et al, 2002). Having constructed an array, a simple but very effective analytical approach is to pick up a group or category and search within for group similarities or differences. A similar approach is to select pairs of cases and look for similarities and differences, including subtle ones.

Miles and Huberman (1994) identified two different strategies that are useful for cross-case analysis; case-oriented strategy and variable-oriented strategy. A case oriented strategy advocates a replication strategy (either theoretical or literal replication) for the conceptual framework across the cases involved in the study, whereas, in a variable oriented strategy, researchers often look for themes that cut across cases. In general, they recommended the use of both case-oriented and variable-oriented approaches.

In this research, both strategies were used to identify themes and patterns across the examined cases. In the case-oriented analysis the conceptual framework was used to compare the findings across all the cases following Yin's (2003) argument that data analysis should rely on the theoretical propositions that led the case study in the first instance. The variable-oriented strategy, where the building blocks are the variables and their interrelations, aims to identify emergent themes around the different variables across the investigated cases.

5.3 Evaluating research quality

Evaluating research quality is intended to provide confidence to research findings. In any research project, it is particularly important to pay attention to reliability and validity of the research. Four tests have been commonly used to establish the quality of any empirical social research; construct validity, internal validity, external validity and reliability (Yin, 2003).

Voss et al (2002) provides a concise description for the four measures. They identified that construct validity refers to the extent to which the researcher established correct operational measures for the concepts being studied. Internal validity refers to the extent to which the researcher can establish a causal relationship. External validity is the measure that aims to realize the extent of generalizing a study's findings beyond the immediate case study. Reliability is the extent to which a study's operations can be repeated with the same results.

In case study research, as a form of research, the development of case study designs needs to maximize these four conditions to inspire confidence in the research findings and produce rigorous results. Yin (2003) identified several tactics for dealing with these four tests when doing case studies. Table 5-4 lists the four tests and the recommended case-study tactics as well as a cross reference to the phase of research when the tactic is to be used. Detailed description for the tactics used in this research, to guarantee research quality, will be discussed in details in the last chapter of this thesis.

Test	Case Study Tactic	Phase of research in which tactic occurs
Construct validity	• Use multiple sources of evidence • Establish chain of evidence • Have key informants review draft case study reports	Data collection Data collection composition
Internal validity	• Do pattern matching • Do explanation building • Address rival explanations • Use logic models	Data analysis Data analysis Data analysis Data analysis
External validity	• Use theory in single-case studies • Use replication logic in multiple-case studies.	Research design Research design
Reliability	• Use case study protocol • Develop case study database	Data collection Data collection

Table 5-4 – Case-study tactics for research quality tests
Yin (2003)

5.4 Summary:

The objective of this chapter was to discuss and identify the appropriate design for this case study research. To identify the appropriate design, the researcher had to make important decisions regarding case selection, data collection and data analysis. In the case selection, this research opted for multiple-case strategy as it provides more compelling evidence and provides better opportunity for generalizing the research output. Besides, this research adopts a mixed strategy for case selection that involves both theoretical and literal replication logic. As a result, 4 cases were selected that predict similar results and another case was included that predicts contrasting results but for predictable reason.

Furthermore, this chapter was also concerned with the data collection methods that will be used as data collection instruments within each of the cases. Interviews were identified as the main data-collection tool for this research.

This chapter also discusses the data-analysis methods that will be used to analyze the collected data. Conceptually-ordered maps were selected to draw the interrelations between the different factors that affect collaborative potential and collaborative intensity. In addition, cross-case analysis will be carried out to build an explanation of what is going on across the cases. Finally, the chapter discusses the different research quality measures that will be used to assess the quality of the research once conclusions are drawn from the research.

6. Empirical findings (within–case analysis)

This chapter aims to provide insights into the different cases that were examined by this research. The chapter will draw the whole picture through in-depth analysis to the different examined cases. The analysis phase in this research started when the researcher wrote a detailed case study report for each interviewed company based on the interviews, observations and available documentations (Appendices IIIA, IIIB, IIIC, IIID and IIIE). The case study reports were used as the raw data for the data analysis phase of this research. The within-case analysis starts with a narrative discussion to compile both sides of a dyad point of view regarding the different factors that affect their relation formation and intensity. The narrative discussion was then used to draw conceptually ordered maps to draw the interrelations between the different factors while capturing the sequence of events. This was then followed by the interrelations tables that specify how the different factors affected each other. The conceptually ordered maps, the interrelations tables as well as the narrative discussion led to the development to the key learning points tables. The following graph figure 6-1 depicts the flow of analysis undertaken for each case dyad:

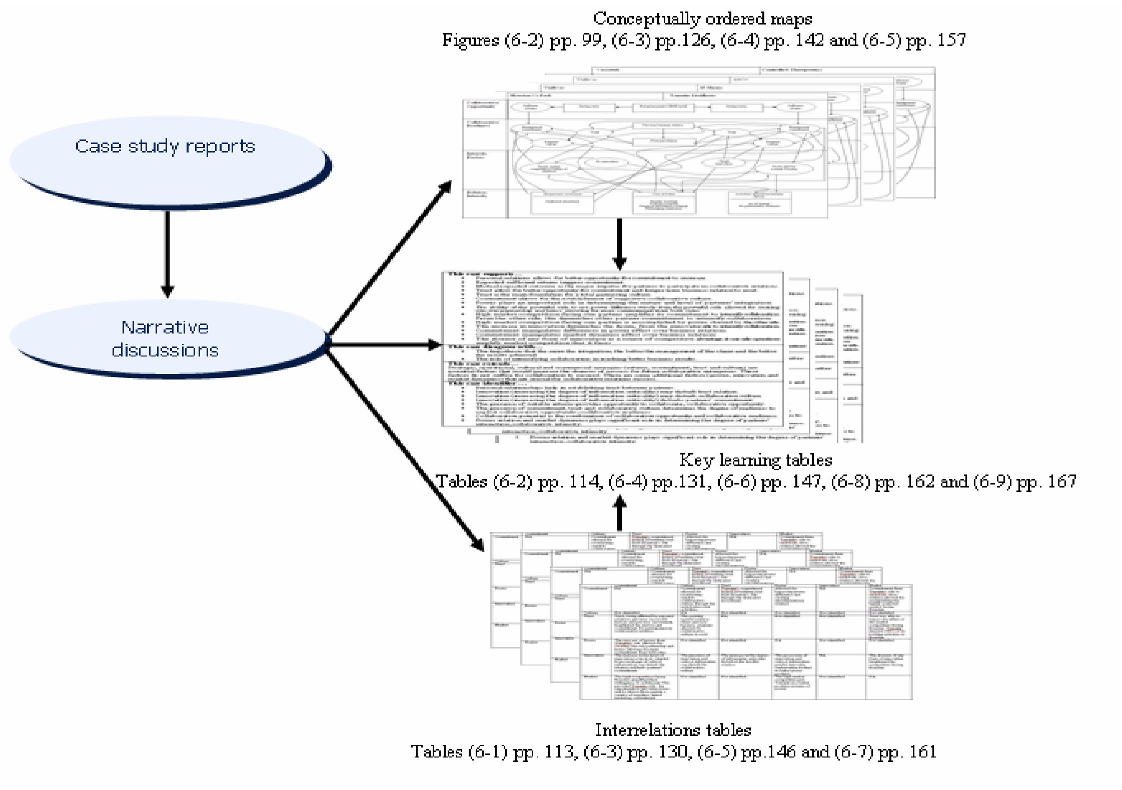


Figure 6.1-Flow of within-case analysis

6.1 Case Study A:

6.1.1 Overview:

Partner 1 (A1) and Partner 2 (A2) are two companies operating in the Scottish whisky industry. The whisky industry could be classified as a small export-oriented industry. A1 (the bottling-business unit) and its business partner, A2, were selected to assess their dyadic relationship. The reason behind this selection is the close relation and the long standing history between the two companies.

A1 provides contract packing and bottling services to support the drinking industry. They are currently operating two business units, one for the co- packing (factory 1) and another one for bottling (factory 2).

Factory 1 receives bottles of spirits from customers together with gifts and attractive packaging material to pack them into and then ship them to their final destination (exported). Factory 2 receives the whisky in tankers from the customers, filling them into bottles, packing it and then shipping them back to their final destination (exported).

A2 is one of the oldest distilleries in the Scottish whisky industry. It is specialized in producing several brands of blended whiskies – the Antiquary range and Talisman.

A1, an SME operating in UK, is considered a low-tech company since it has no innovation in its processes. A2, an SME operating in UK, is also considered a low-tech company as it has a very low percentage of expenditure in innovation.

6.1.2 Nature and history of the relation:

A1 and A2 started their first formal collaborative venture in 2005. This collaboration, which was facilitated by researchers from University of Strathclyde, used SME excel methodology (European project) for bringing the two companies together to work for their mutual benefit.

The relation between A1 and A2 is close as they have a long history of cooperation. This good relation was demonstrated in A2 doing 100% of its bottling activities in A1. This represents 50% of the total production capacity of A1. Besides, A2 shared A1 (3 years ago) with a small amount (around 30,000 pounds) to increase the bottling capacity in factory 1 site.

6.1.3 Potentiality to collaborate

At the start-up of the European project, A1 participated with two of its potential partners in this project; company x and A2. Company x did not show much enthusiasm in undertaking collaborative business relation with A1. The main reason for this is the insufficient expected returns (from company x's own perspective) from undertaking such a venture.

The first trigger of the formal collaboration between A1 and A2 started when they participated in this European project as potential partners to collaborate. The participation in this project allowed for quantifying and demonstrating the benefits of the A1-A2 partnership. The expected benefits and returns from collaboration created the desire from both sides to collaborate as evidenced in the following statement:

"…the European project put the two of us together, quantified the benefits of collaborative working …we were both very happy with the European project results…"

A1's Operations Director

It could be seen that saving costs and smoothening the work flow in the A1-A2 relationship was the major impetus for the two partners to collaborate. A2's close relation with A1 represents a good opportunity to reduce costs of the bottling activity. From A1's side, it could be identified that having collaborative relationship with A2 represents a good opportunity to increase their profits and keep close relation with a crucial customer.

Their participation in this project was backed up by the long-standing personal relation between A1's Operations Director and A2's General Manager. It should be highlighted that both sides acknowledged the effective role of personal relations in establishing commitment and building trust in business relations. This affirms the argument of Nummela (2003), who noted that social bonds and personal relationships act as an effective mediator hence allowing for better support and commitment.

Besides, the previous successful history between the two companies provided the suitable ground for their participation in the European project. The long-standing personal relation and the previous successful history allowed creating quite acceptable levels of trust in the relation, hence heightening the motive for participation in such collaborative venture. This could be substantiated in the following quote:

"...Collaboration depends very much on the individuals...we have known each other for about 30 years and we have a good personal relationship... collaboration require a huge amount of trust for the relation to go...the business basically depends on personal relationships... "

A1's Operations Director

The expected returns and the existing trust triggered top management, from both sides, to be committed to have collaborative relation. This supports what Gundlach et al (1995) and Barratt (2004) say, that mutual trust allows for further commitment and longer-term business relation. From the interviews, top management commitment from both sides was evident. This is substantiated in the following:

"...Yes we are committed to collaborate with A1...I don't have 100% of my business with all of my other business partners"

A2's General Manager

Representatives from both companies affirmed explicitly their desire to build and maintain close relation with each other to create a win-win partnership as evidenced in the following quote:

"...Doing business collaboratively is much much more profitable for both sides"

A1's Operations Director

The Partners' commitment was reflected in several joint activities; dedicated investment, regular meetings, training programs and exchanging employees. A2 top management commitment and the trustful relation led them to invest in A1's Factory 1 site. This in turn allowed for a further increase in both sides' commitment and trust. In addition, the long-term intention, from A2's side, to further invest in the Factory 2 reflects their willingness to keep this relation close.

The regular meetings, on a weekly basis, between companies' representatives reflect the nature of the relation and the high degree of commitment from top management to keep the relation intact.

Besides, both companies are planning to conduct training programs for their employees on the other partner operations with the aim of building relation between employees and making them appreciate each other's role in business success.

Another clear demonstration, from both sides, to management commitment was when A2 lost one of their member staff and A1 agreed to let one of its staff members, temporarily, replace this lost member till they got another employee.

"…that person learned to a degree my side of the business…and helped to expand his appreciation and knowledge about our products…"

A2's General Manager

Furthermore, A2 arranged with A1 to let new employees stay for a week at A1 site. The aim is to give new employees the opportunity to build closer relation with A1's staff (building a collaborative culture) and acknowledge A1's role in the success of the business. This is evidenced in the following quote:

"…in the past, when I recruit a new staff member, he had to have a walk through A1 to see this and that…recently, two new members spent a week at A1 sitting alongside with their staff learning as much as possible to understand A1's needs…and to build close relationship between employees…"

A2's General Manager

The participation in the European project was the first building block for establishing supportive collaborative culture at both sides. Furthermore, A2's investment in factory 2 site (as a result of the existing trustful relationship between them) was another step forward to build such a culture. The participation in the European project, coupled with A2's investment, conveyed a clear message for employees, from both sides, of the importance of collaboration to top management. The presence of trust allowed for the A2 investment in A1's factory 1 site which could be identified as one of the main foundations in establishing a collaborative culture within the two companies. This supports what Busch and Hantusch (2000) say when they identified trust as the main foundation for a total partnering culture.

The continuous efforts from top management to nurture such a culture could be seen in the joint activities (training programs, exchanging employees, regular meetings) undertaken between A1 and A2. The joint activities allowed different employee levels, from both sides, to interact and build collaborative and close relations, hence allowing for establishing a culture that supports collaborative efforts. This affirms Nummela (2003) and Gundlach et al (1995) previous results that commitment allows for the establishment of a supportive collaborative culture.

In conclusion, it could be identified that undertaking collaborative relations represents a good opportunity (collaborative opportunity) for A1 and A2 to save costs. The quantified expected benefits and returns from collaboration were the major impetus for the two companies to undertake their collaborative venture. This result confirms previous results that identified mutual expected outcome as the major impetus for partners to participate in any collaborative relation (Nummela, 2003; Barratt, 2004; Wu and Cavusgil, 2005).

In addition, commitment, culture, trust and their interrelations could be seen as factors that affect the degree of readiness of partners to exploit this collaborative opportunity. The presence of collaborative opportunity (potential returns) and the collaborative readiness of partners (the presence of commitment, culture and trust) to utilize that opportunity, reflect high potentiality of the two partners to undertake a collaborative business relation; collaborative potential.

The presence of a quite acceptable level of commitment, culture and trust as well as sufficient returns (potentiality factors) could reflect the potentiality of partners to collaborate but how can partners determine the extent and the degree of their collaboration; the collaborative intensity of the relation. It seems that some other factors affect the intensity of the partners' relation.

6.1.4 Intensity factors

The effect of power over the intensity of the relation was evident. Both interviewees identified that power differences have great influence in shaping business relations. They both admitted that the powerful partner is able to determine the nature and extent of business relation, whether to collaborate or not, and even to direct the relation to his own interest. This confirms previous studies' findings that identified supply chains as complex power structures (Watson, 2001) in which power plays an important role in determining the nature and level of its integration (Skjoett, 2006 and Cox et al, 2004).

It was noticed that both sides view the power relation in a totally different way. Each side is looking from its own angle and recognizes advantages for itself. A1's Operations Director sees the relation as an interdependence relation. From the other side, A2's General Manager declared his company as being in a better position.

A1's Operations Director mentioned that:

"... A2 is our biggest customer…They don't have their own bottling facility and is doing all its bottling activities with us…."

A1's Operations Director

From the other side A2's General Manager identified:

"…We are A1's principle customer representing 50% of their total production…If we shifted our bottling activities to another bottling factory; they will be seriously affected..."

A2's General Manager

It can be seen that the simple nature of A1's business and the absence of any sophistication in their production process makes moving from one partner to another very easy.

"…I can bottle anywhere…transition from a bottler to another may be costly but easy to do with minimal time consumption…"

A2's General Manager

Comparing this with what A2's General Manager said about his relation with another bottling factory, where he received inferior service. The reason for this, from his point of view, is that they were not a principle customer and were in a relatively weaker position in terms of power. The experience of A1 with another company (Y) in the co-packing factory is another example of differences in power. A1's Operations Director identified company (Y) as massively powerful and declared that they are dealing with two other co-packing companies and can easily dictate their terms and conditions over A1. This made company (Y) postulate its terms in any business transaction.

A2's General Manager and A1's Operations Director identified the market competition in the bottling industry as severe. The main reason for this is that the market is very price sensitive and there are many bottling companies competing with each other. The simple nature of the bottling activity and the ease of transition from one bottler to another played a significant role in amplifying the competition in this market. This could be understood from the following:

"…The market is very price sensitive…customers are very conservative, very loyal…it is very difficult when you are trying to get new customers"

A1's Operations Director

"There are too many bottling houses and not enough customers…"

A2's General Manager

This high competition amplified the willingness of A1 to collaborate and have close relations with their customers. From A2's side, this situation provides the opportunity to get better prices and to choose from a variety of suppliers. This goes in the same vein with Wu and Cavusgil (2005) previous results that identify the high market uncertainty and complexity as motives for more organizational commitment to collaborative ventures formation.

The effect of market dynamics over the power relation was also clear. A1-A2 market dynamics puts A2 in a better position in terms of power. It could be seen that the increase in the market competition in A1's side is associated with power relation skewed towards A2's side. As previous studies identified that the nature of the market (seller/buyer) plays a significant role in determining the suitable level of influence that can be exerted in collaborative relation (Lai, 2008 and Ogbonna and Wilkinson, 1998).

The effect of power and market dynamics over the intensity of the relation could be seen in the absence of any form of IT linkage between them. Despite A1's willingness to establish an IT linkage, A2 was reluctant to establish such a link and identified the current way of exchanging information as quite sufficient. A2 attributed its reluctance to the simple nature of A1's industry and the short lead time that reached 7 days. Besides, A2 is responsible for providing A1 with all the raw materials that they need to perform their bottling activities.

A2 used its relative power over A1 and the severe competition facing A1 to disregard any form of IT linkage. They identified that the current level of interaction and exchanging information is quite sufficient and that they are not willing to have such an IT linkage.

Despite A2's relative power over A1, it is clear that A2 was able to create a clear interdependence relation. Commitment from both sides, especially from A2's side, to have close relation manipulated the power difference and the market conditions between partners and allowed for wise use of power; hence establishing win-win partnership for the mutual benefit of both sides. This supports Ogbonna and Wilkinson (1998) who say that well-established commitment reduces the likelihood of a more structurally-dependent party being exploited.

By the nature of this industry, the percentage of innovation is limited, especially in A1. A1's operations are considered as low tech with nil percentage expenditure in innovation. A2 operations have a small percentage of expenditure in innovation in the form of re-packaging; re-branding, etc. This is evidenced from the following quotes:

"…very standard process…lots of people are doing bottling like us…"

A1's Operations Director

"…Some years we spend on R&D…some years we spend nothing…last year we spent on the re-branding project…"

A2's General Manager

The effect of innovation and critical information exchange over the intensity of the relation could be seen in the re-branding project. In this project, A2 deliberately disclosed the information about their new design 12 weeks prior to the new product launch. The 12 weeks is exactly the time needed for A1 to re-adjust their bottling machines and get ready for the new innovated product, which in practice was not enough.

It could be seen that A2 disclosed its confidential information only when they felt threatened by the probability of delaying the launch of their new design. This can reflect how any increase in the level of innovation, even in its simplest form, (exchange of critical information) can disturb the relation.

Despite the relation between both sides is characterized by high levels of trust between the two parties; the increase in the degree of information criticality disturbed this trustful relation. Besides, the effect of innovation over collaborative culture could not be ignored. The existing level of collaborative culture was not able to manipulate the effect of exchanging critical information.

Although both sides admitted that they never faced any problems with information, the effect of critical information over information exchange is evident.

It could be identified that the absence of any form of innovation heightened market competition for A1 and diminishes commitment at A2's side.

In conclusion, it could be identified that the current degree of interaction (depth of the relation) between A1 and A2 was affected by several factors. The market dynamics, the smart use of the power difference by A2 and the absence of any form of innovation or sophistication in A1's operations created interdependence relation between the two companies. Generally, it could be identified that the current intensity of the relation resulted from the interrelations between the intensity and potentiality factors. The following map draws the interrelations between the potentiality factors and the intensity factors and identifies the current degree of interaction in A1-A2 partnership.

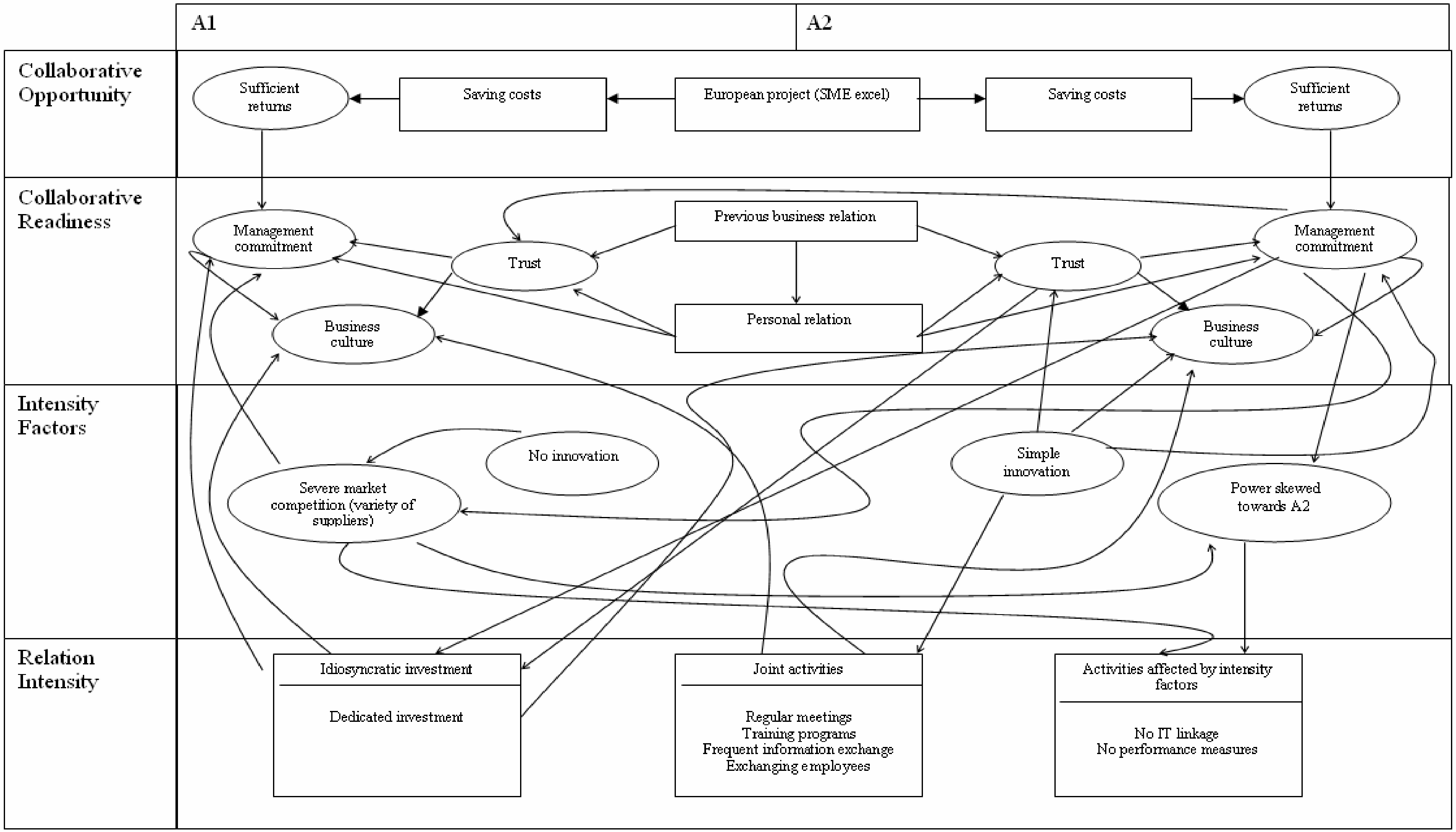


Figure 6-2-Conceptually ordered map (A1-A2)

6.1.5 Relation intensity

The relation between A1 and A2 could be seen as successful collaborative relation. The current degree of interaction is producing quite acceptable results for both sides. Both sides identified the relation as open and they never suffered from absence/inadequate information exchange. Both sides identified that they usually receive the required information at the right time. This is evidenced in the following:

"…More collaboration will not enhance the business…it is difficult to think about things to make the relation better…"

A1's Operations Director

Under the umbrella of this partnership, both companies undertake several collaborative activities and abandon others. A1 and A2 are undertaking some joint activities to help their collaboration venture succeed. The joint activities comprise training programs, exchanging employees, dedicated investments and regular meetings. On the other hand, it was noticed that there are no joint forecasts and joint promotions undertaken by both companies. Although they identified the relation as broad and deep, they don't exploit any collaborative tool (VMI, CPFR, CRP) while managing their relation. The reasons behind this are: first; any joint activity will not add much to the relation. A1 is totally away from the market and they actually have no access to the market information. Second, A2 is responsible for providing all the raw materials to A1 for the production.

In addition, they currently do not have any joint measures or evaluation criteria for their relation. Although they both acknowledged the importance of measuring and assessing their relation, each partner prepares his own measures solely.

The current collaborative intensity under the current levels of potentiality and intensity factors and their interrelations are quite sufficient and produce appropriate results. It could be identified that adding more effort (to intensify partners' interaction) will not provide additional value. This result contradicts Mouritsen et al (2003) hypothesis that the more the integration, the better the management of the chain and the better the results achieved. In addition, this result disagrees with Valsamakis and Groves (1996); Spekman et al (1998); Lee (2000); Simatupang and Sridharan (2005); Whipple and Russell (2007) and Duffy (2008) who highlighted the role of intensifying collaboration in reaching better business results.

6.1.6 Concluding remarks

The A1-A2 relation could be seen as a good example for successful collaborative relations. It could be identified that A1's and A2's desire to save costs was the major impetus for their collaboration; it created good collaborative opportunity for both sides. The presence of top management commitment, trustful relation and supportive collaborative culture created suitable collaborative grounds for this collaborative relation.

The management commitment and the associated activities coupled with the current levels of trust and collaborative culture reflect the partners' degree of readiness to collaborate. It could be identified that the opportunity to collaborate and the partners' readiness to exploit this opportunity put A1 and A2 in a position of being potential candidates to collaborate and reflect the degree of their collaborative potential. This extends the work of Bititci et al (2007) who developed the synergy model to identify partners' readiness to collaborate. The model identified strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) as essential factors that would increase the chances of success for future collaborative enterprises. This research identifies that these factors are not sufficient for collaboration to succeed. It adds to this work by highlighting some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.

The role of personal relations over readiness of partners to collaborate could not be ignored. It could be seen as the cornerstone for this collaborative relation. It allowed their participation in the European project as well as nurturing trustful relation between them.

The power relation, exchanging innovative information and the market dynamics were identified as major players in determining the extent of partners' collaboration. Ignoring their effect may disturb the relation and may cause the abortion of any collaborative venture.

The role of power differences over collaboration intensity was evident. Power difference allowed A2 to identify the intensity of the relation and the extent of interaction. A2 was able to use power difference wisely and allowed interdependence win-win collaborative relation to occur. The effect of market dynamics over power and relational intensity was evident. Market conditions played a significant role in putting A2 in a relatively better position in terms of power. In addition it helped A2 to postulate the suitable level of joint interactions.

The effect of innovation (exchanging critical information) over collaboration could be seen in the rebranding project. The increase in the degree of information criticality was seen as disturbing the relation and affecting the degree of partners' interaction. Although trust and collaborative culture are essential for partners' information exchange, the effect of innovative information over them was quite clear. The current level of trust and collaborative culture was not able to bridge the effect of exchanging critical information. The rebranding project is clear evidence on how innovative information hinders the effect of trust and collaborative culture on exchanging critical information. In addition, it could be identified that the absence of any form of innovation in A1's operations places them in a relatively weaker position in terms of power.

It could be concluded that the ability of both sides to wisely manage their power relation, manage information exchange and bypass the effect of market dynamics allowed them to reach the current level of intensity in their relation.

The interrelations between the potentiality factors and the intensity factors were evident. Besides, the effect of the potentiality factors over the intensity factors was obvious. Table 6-1 highlights the interrelations between the different factors.

In general, we can say that in spite of the absence of joint forecasts and promotions, collaboration tools to manage the relation, joint assessment or measures for the collaboration performance and IT linkage, yet business collaboration between partners clearly exists. The relation between the two partners can be seen as good, collaborative and productive. Both partners are quite satisfied with this level of cooperation and are not willing to do more, at least in the near future. The current intensity, under the current circumstances, is quite productive and quite suitable to produce acceptable business results for both sides.

	commitment	Culture	Trust	Power	Innovation	Market
Commitment	NA	Commitment allowed for establishing suitable collaborative culture through the undertaken joint activities.	A2's commitment helped in building trust from A1's side through the dedicated investment.	Allowed for bypassing power difference and creating interdependence relation	Not identified	Commitment from A2's side to undertake close relation allowed for manipulating the highly-contested market facing A1.
Culture	Not identified	NA	Not identified	Not identified	Not identified	Not identified
Trust	Trust, being affected by personal relations, previous successful history and previous investment, heightened the motive and commitment for participation in collaborative relation.	The existing trustful relation (from previous business relation) allowed for a collaborative culture to exist.	NA	Not identified	Not identified	Trust was able to bypass the effect of the market competition facing A1. A2 directed 100% of its bottling activities to A1
Power	The wise use of power from A2's side allowed for creating a win-win partnership, hence allowing for more commitment from both sides.	Not identified	Not identified	NA	Not identified	Not identified
Innovation	The increases in the level of innovation, even in its simplest form (exchange of critical information), can disturb the relation and hurt partners' commitment.	The presence of innovation and critical information can disturb the collaborative culture.	The increase in the degree of information criticality disturbed the trustful relation.	The possession of innovation and critical information put the innovator (information holder) in a better power position.	NA	The absence of any form of innovation heightened the competition facing A1.
Market	The high competition facing A1 amplified their willingness to collaborate. From A2's side, this provided them with the opportunity to attain better prices and choose from a variety of suppliers; hence hindering commitment.	Not identified	Not identified	The high market competition puts A2 in a better position in terms of power	Not identified	NA

Table 6-1-Interrelations table (A1-A2)

Each cell in the previous table represent the effect of the factors in first column on the factors in the first raw

It can be concluded that the current intensity of the relation could be seen as a factor of the intensity factors and their interrelations with the potentiality factors. The current intensity is appropriate contingent to the potentiality and intensity factors and their interrelations. It is important to note that more intensity in the relation requires changes in the potentiality or intensity factors levels. For example, to establish IT linkage requires changes in the power relation or the market dynamics. Similarly, sharing critical information more freely requires an increase in trust or better supportive collaborative culture between partners.

6.1.7 **Key learning points:**

The following table (Table 6-2) aims to highlight the key learning points from this case study:

This case supports… • Personal relations allow for better opportunity for commitment to increase. • Expected sufficient returns trigger commitment. • Mutual expected outcome is the major impetus for partners to participate in collaborative relations. • Trust allows for better opportunity for commitment and longer term business relation to exist. • Trust is the main foundation for a total partnering culture. • Commitment allows for the establishment of supportive collaborative culture. • Power plays an important role in determining the nature and level of partners' integration. • The ability of the powerful side to use power difference wisely allowed for creating win-win partnership and hence allowed more commitment from both sides. • High market competition facing one partner amplifies its commitment to intensify collaboration. From the other side, this diminishes other partner commitment to intensify collaboration. • High market competition facing one partner is accomplished by power skewed to the other side. • The increase in innovation diminishes the desire, from the innovator side to intensify collaboration. • Commitment manipulates differences in power effect over business relations. • The absence of any form of innovation, as a source of competitive advantage, at one side operations amplifies market competition that it faces.
This case disagrees with… • The hypothesis that the more the integration, the better the management of the chain and the better the results achieved. • The role of intensifying collaboration in reaching better business results.
This case extends… Strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) are essential factors that would increase the chances of success for future collaborative enterprises. These factors do not suffice for collaboration to succeed. There are some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.
This case identifies … • Personal relationships help in establishing trust between partners. • Innovation (increasing the degree of information criticality) may disturb trust relation. • Innovation (increasing the degree of information criticality) may disturb collaborative culture. • Innovation (increasing the degree of information criticality) disturbs partners' commitment. • Commitment manipulates market dynamics effect over business relations. • The presence of suitable returns provides opportunity to collaborate; collaborative opportunity. • The presence of commitment, trust and collaborative culture determines the degree of readiness to exploit collaborative opportunity; collaborative readiness.

- Collaborative potential is the combination of collaborative opportunity and collaborative readiness.
- Power relation, market dynamics, innovation and their interrelations with the potentiality factors play a significant role in determining the degree of partners' interaction; collaborative intensity.

Table 6-2-key learning points (A1-A2)

6.2 Case study B:

6.2.1 Overview:

Partner 1 (B1) and Partner 2 (B2) are two companies operating in the FMCG industry. B1 and its business partner, B2, were selected to assess their dyadic relationship. The reason behind this selection is the close relation and the long-standing history between the two companies.

B1 provides 400 different brands spanning 14 categories of home, personal care and food products. B1 is responsible for alignment, coordination and leverage of business operations across four business units: Maghreb (Morocco, Tunisia, Algeria, and Libya), Mashreq (Egypt, Lebanon, Palestine, Jordan, Iraq, Sudan, and Syria), Kingdom of Saudi Arabia, and Gulf (U.A.E, Oman, Bahrain, Yemen, Kuwait, and Qatar).

B2 is a regional supplier for high-quality chemicals used in detergents. B2 was established in Saudi Arabia in 1998 with its commercial production beginning in the middle of 2001. They were able to establish a wide base of customers operating in different Arabian countries. They were also able to establish successful and strong business relations with several large multinational companies such as C1, P&G and Henkel.

B1, a multinational company operating in Egypt and serving North Africa and Middle East (NAME) with its mother company in the UK, is considered a low-tech company since its expenditure on research and development is weak. All research and new ideas are developed and managed from the mother company in the UK. B2, an SME operating in Saudi Arabia, is also considered a low-tech company as all R&D activities are focused on solving quality-related problems.

6.2.2 Nature and history of the relation:

The first formal collaborative venture between B1 and B2 started in 2006, when B1 started its supplier-development program. This program aimed to develop collaborative relations with strategic suppliers, develop their processes and identify potential cost-saving opportunities for the mutual benefit of B1 and its suppliers. The business relation between B1 and B2 is close and extends over a period of more than 4 years. This good relation was demonstrated in B2 supplying 90% of B1's Sulphonate. This percentage represents around 25-50% from the total sales of B2.

6.2.3 Potentiality to collaborate

At the introduction of B1 supplier-development initiative, they classified their suppliers as gold, silver and bronze, with gold suppliers as the most important suppliers to them. The classification was based on the degree of market complexity (availability of other suppliers, imported vs. local suppliers, amount of purchases) and the degree of dependency on the supplier (amount of purchases).

The start-up of collaboration between B1 and B2 was when B1 identified B2 as a gold supplier. This selection reflects the importance of B2 to B1 business as well as the high potential of finding cost-saving opportunities in B1-B2 business relation. From the other side, B2 showed great interest in participating in this initiative. B1 account produces millions US $ to B2 and participation means increasing their profits (or at least maintaining B1 account). Besides, the ability of B1 to provide development programs to its suppliers was an important motive for B2 to participate in this initiative.

It could be seen that cost saving was the major impetus for B1's to collaborate. The close relation with B2 represents a good opportunity to reduce costs of their raw materials; hence becoming more competitive in the highly contested market they are serving. From the B2 side, maintaining B1 account, developmental programs as well as saving costs motivates B2 to undertake such a collaborative venture. It could be identified that having collaborative relation with B1 represents a good opportunity to B2 to improve their profits and benefit from the developmental programs offered by B1. This supports previous studies that identified close inter-firm relation returns as not restricted to commercial goals and financial profits (Nummela, 2003) but extends to include increasing knowledge, sharing risk, sales growth, product development, market development (Wu and Cavusgil, 2005), increase information flow, reduced uncertainty (Fiala, 2004) and development programs for partners (Ghijsen et al, 2009).

The successful previous business relation between B1 and B2 allowed trust to exist between them. This successful history allowed B1's Supply Manager and B2 CEO to develop a good personal relationship which, in turn, allowed for heightening trust and commitment to undertake collaborative relation. Both sides highlighted the importance of personal relationships in reaching close business relations. This is clear in the following two quotes:

"...Personal relationship is essential and crucial...it strongly affects business relations... any changes in people (management teams) may cause dramatic changes in the way business relations are handled and may cause the abortion of any collaborative efforts..."

B2 CEO

"...At a more senior level, managers should develop close personal relationships with strategic customers... it allows for better opportunity to undertake collaborative relations..."

B1 Supply Manger

This also supports the work of Nummela (2003) who noted that social bonds and personal relationships act as an effective mediator hence allowing for better support and commitment.

The existence of quite high levels of trust between both sides coupled with the potential sufficient returns allowed top management from both sides to be committed to collaborate. This supports the argument that mutual trust allows for further commitment and longer-term exchange business relations (Gundlach et al, 1995; Morgan and Hunt, 1994). It also supports Barratt (2004) and Wu and Cavusgil (2005) contention that the mutual expected outcome is the major impetus for partners to participate in any collaborative relation. It should be noted that the development programs provided by B1 reflect top management commitment from B1's side and, in turn, allowed for further trust and commitment from B2's side.

In general, top management commitment to collaboration from both partners was evident. During the start-up of this initiative, both partners' top management affirmed explicitly (during their first meeting) that they were willing to undertake this venture and to build a collaborative win-win partnership with each other.

"…At the start-up…in a meeting with our Managing Director, we announced explicitly our desire to have collaborative win-win business relation… partners were asked to say explicitly that they are committed to collaborate with us…"

B1 Supply Manager

In addition, the supplier development initiative is clear evidence of B1's appreciation and commitment to build close and collaborative relations with its suppliers. From the other hand, B2's participation in this initiative is clear evidence for their management commitment to build collaborative relations with B1.

B1 commitment to the relation was demonstrated through providing B2 with some development programs; gap analysis project and technical assistance programs with the aim of enhancing their performance.

At the beginning of their collaborative venture, B1 financed, assigned and participated with third party consultants to conduct a gap analysis for B2 operations and prepare closure programs for the gaps. This in turn helped in nurturing B2 commitment and trust. In addition, B1 provided technical assistance to B2 to improve their business operations and help them solve technical problems.

In addition, both partners' commitment was demonstrated in several joint activities; regular meetings, frequent information exchange, joint performance measures, cost model and training programs.

The regular meetings, on a monthly basis, between companies' representatives can also show the nature of the relation between both sides and the high degree of commitment from top management to maintain good relations.

The management commitment was further reflected in both parties undertaking regular technical staff visits and interchangeable training programs. The aim is to make staff members appreciate each other's role in the business. This allows B2 to better understand B1's needs in terms of production requirements and quality, helping to smooth the work flow.

Both partners acknowledged the importance of setting joint performance measures. Currently, they are preparing, jointly, scorecards to measure and manage the performance of their collaboration. The performance measurements include measures for customer service, cost, quality, stocks, and other important KPIs, customer service level (delivery time), quality, innovation delivery (how fast can you react, develop and provide raw material on time for new products), and stocks amount. Managing the performance encompasses setting objectives, measuring the performance, analyzing the loss tree and setting improvement plans. The loss tree helps in analyzing all problems that they both face and identifies current losses. The aim behind this is to identify opportunities for improvement and to discover any cost-saving opportunities. Although it is only 25% activated, they are in continuous effort to make it reach its final form.

Also, the jointly-developed cost model is another demonstration of top-management commitment from B2's side. The cost model comprises the commodity price, conversion cost, logistics cost and B2's profit margin. With every increase or decrease in the commodity price, the cost model automatically changes the selling price without any further negotiations. In addition, B1 uses its power leverage (through high volume purchases) to negotiate the buying terms with B2 suppliers to get better prices for B2's raw materials in a clear demonstration of the degree of openness between them. The cost model clearly reflects the degree of openness and commitment in the relation. This is evidenced in the following:

"…the cost model proves our commitment and how we trust B1…"

B2 CEO

The collaborative business culture in B1 and B2 is, to a great extent, adequate for collaborative efforts to prosper. Top-management commitment from both sides and the undertaken joint activities allowed for establishing a suitable supportive collaborative culture. This supports Nummela (2003) assumption that the more co-operatively the partners behave, the more positive their attitudes towards cooperation tend to become as well as Gundlach et al (1995) argument that commitment allows for the establishment of a collaborative culture.

B1 top-management commitment noticeably cascaded down to different employee levels providing the suitable grounds towards building a collaborative business culture. The positive perception of B1's Purchasing Manager about the nature of exchanging information internally and externally shows the prevailing culture within B1. The supplier development initiative and the involvement of several middle-level managers represent a clear message from top management to B1 staff to pursue collaborative and open relations with their business partners. On the other side, the collaborative business culture in B2 could be seen through the CEO's clear identification that the relation with B1 is of crucial importance to B2. The CEO continuously provides awareness sessions to all the staff to keep their attention on the importance of B1 as a strategic partner. This is evidenced in the following quote:

"...All staff members clearly understand the importance of B1 to our business...I always clarify the importance of having close relation with B1..."

B1 CEO

To conclude, it could be identified that the participation in the supplier-development initiative represents a good opportunity (collaborative opportunity) for B1 to save costs and for B2 to maintain business, save costs and participate in B1 development programs. These expected benefits and returns from collaboration were the major impetus for the two companies to undertake their collaborative venture.

"...It is crucial to find benefits for both sides to undertake such close and open relation...otherwise collaboration will not be feasible and will fail..."

B1 Supply Manager

In addition, commitment, culture, trust and their interrelations could be seen as factors that affect the degree of readiness of partners to utilize this collaborative opportunity. This is evidenced in the following:

"...It is very important to trust your supplier...foundation of trust and commitment is essential for close relations to occur...B2 organizational culture was a major factor in our decision to have collaborative relation with them...sometimes you can find good suppliers...but their internal culture prohibits any collaborative efforts... "

B1 Supply Manager

The presence of collaborative opportunity (potential returns) and the collaborative readiness of partners (the presence of commitment, culture and trust) to utilize that opportunity reflect high potentiality of the two partners to undertake collaborative business relations; collaborative potential.

The presence of quite acceptable levels of commitment, culture and trust as well as sufficient returns (potentiality factors) could reflect the potentiality of partners to collaborate but how can partners determine the extent and the degree of their collaboration; the collaborative intensity of the relation. It seems that some other factors affect the intensity of the partners' relation.

6.2.4 Intensity factors

The relation between B1 and B2 could be identified as an interdependent relation. B1 top management commitment and the market dynamics played a significant role in creating this interdependence relation.

The effect of power and market dynamics over the intensity of the relation was evident. It should be highlighted that B1's supplier-development initiative acknowledged the importance of collaboration with various degrees of interaction with partners. B1 classified its suppliers as gold, silver and bronze, based on the market dynamics and the degree of dependency on that partner and, in accordance, determines the degree of interaction with them. As the market competition facing suppliers decreases, the level of B1 commitment to intensify the interaction increases and vice versa. In addition, as the degree of dependency increases, the commitment to deepen collaborative relations increases and vice versa. The market dynamics and the degree of dependency play considerable roles in determining the level of B1 commitment to the relation.

Both partners identified the difference in power as a major player in influencing and directing business relations. They acknowledged the ability of the powerful partner to shape and direct the relation. This result affirms Stannack (1996) and Ogbonna and Wilkinson (1998) previous study in which they identified that power provides the ability to control one's own/another entity's range of intended or actual action. Also, it supports Skjoett (2006) and Cox et al (2004) contention that power plays an important role in determining the nature and level of supply chains integration.

Generally, B1 could be seen as more powerful and having the upper hand in almost all its business relations. The high amount of purchases, the ability to provide its suppliers with development programs and their ability to develop new suppliers (although it will take time) puts them in a relatively better power position when dealing with their suppliers.

Yet, it could be identified that B1 top-management commitment to collaborate played a significant role in bypassing the effect of power and allowed them to build a successful long-term partnership with B2. This is evidenced in the following quote:

"...wise integration is the future...collaboration provides better competitive advantage... "

B1 Supply Manager

Besides, the market dynamics played a significant role in alleviating any power difference between them despite the different views expressed by them for the market competition facing B2. They identified the market competition as high and that the market is full of large and small players which require continuous effort and continuous improvements in their operations and this represents continuous pressure over them. This is evidenced in the following:

"...Suppliers fight to gain B1 business..."

B2 CEO

B1, on the other hand, referred to the competition facing B2 as quite smooth. They identified the difficulty of switching from B2 to another supplier which can provide the same level of quality, reliability and suitable cost within NAME geography.

"...There are only two reliable suppliers...B2 is one of them...it is difficult to find another reliable supplier..."

B1 Supply Manager

It could be seen that the good, reliable and consistent service that B1 receives from B2 as well as the absence of other reliable suppliers in the market (market dynamics) played a considerable role in manipulating the effect of power differences and in heightening B1 top-management commitment to maintain collaborative relation with B2. This supports Lai (2008) argument that market dynamics affects the level of partners' commitment and the nature of the power relation. This means that when there are multiple sources of supply to a certain buyer for example, the power will be skewed towards the buyer, providing a case of buyer dominance over the relation and hence the buyer willingness to collaborate diminishes whilst that of supplier commitment heightens.

In general, B1 financial capabilities, the high volume of purchases and being a principle customer to B2 (25-50 % from B2 annual sales) is moderated by market conditions (B2 being a market leader and the difficulty of finding a similar reliable supplier) and the good, reliable and consistent service that B2 provides leads to the establishment of interdependence relation in B1-B2 collaborative relation. This is evidenced in the following:

"B2 is powerful…it is very difficult to switch from B2 to another supplier…but B1 is also very powerful…we buy from them with millions US$, and if they lost us, they will lose 2/3 of their business…"

B1 Supply Manager

This supports Lai (2008) argument that the existence of moderating variables can play an important role in manipulating the effect of power asymmetry.

The perception of B1's Supply Manager that power fluctuates according to the market situation (supplier market with high demand and low supply or buyer market with high supply and low demand) played an important role in creating an interdependent win-win partnership.

"…Power is not only by size…it is by market complexity…"

B1 Supply Manager

This goes in the same vein with Hingley (2005) who identified that power relation is not static and it can change in a flux between parties, even within an ongoing relation and hence power advantage can move from one side to the other.

In general, B1 were able to evaluate the market conditions and exploit the power difference wisely and build a clear win-win interdependent partnership with B2. This is evidenced in the following:

"…There is interdependence between us…if you are able to create a win-win partnership, the relation will prosper…"

B1 Supply Manager

This supports Hingely (2005 B) argument that the presence of power imbalance does not mean that it is always explicitly exercised in supply chain relationships.

B2 classified power differences between partners into smart power and harsh power, with completely different influences over business relations. Harsh power can be seen in relations when the powerful partner tries to impinge its way and conditions over its partner and tries to reap all the benefits. Smart power is the ability of the powerful partner to negotiate and find different alternatives to create win-win situations with its partners. B2 CEO highlighted the ability of B1 to create quite productive win-win relations for the mutual benefit of partners. This, in turn, heightened B2's trust and commitment to the relation. This is clear in the following quote:

"B1 is using smart power…they are able to create win-win partnerships…B1 are always trying to find the best fair treatment…"

B2 CEO

This supports Hingely (2005 B) contention that asymmetric power relations could be stable and long lasting when the powerful side adopts smoothly his power influence and that the use of coercive power is the antitheses of trust. In addition it confirms Hausman and Johnston (2009) argument that managing collaborative relations requires employing influencing tactics that do not damage the future of the relationship.

The effect of the power over the intensity of the relation could be seen in the absence of IT connection between them as well as the cost model. Although B1 and B2 IT systems are capable of exchanging information internally between different functions and externally with partners, there is still no IT link between them. B2 CEO expressed explicitly his desire to have IT linkage with B1. B1 was first against having such a link but recently they started negotiating this matter and they are expecting to implement VMI within 2-3 months. This reflects the effect of power over intensity and the degree of interaction in the B1-B2 collaborative relation. It should be highlighted that the powerful side has the ability to decide the degree of interaction, the depth of the relation and the time to intensify collaboration. In addition, the cost model proves the ability of B1, the powerful side, to influence B2's decision to accept, disclosing all its pricing structure for B1. This result extends the work of Ghijsen et al (2009) who identified that the asymmetric power relation allows the powerful side to influence the behavior of the other. It could be identified that whether the powerful side used coercive (harsh) or non-coercive (smart) power, he has the ability to decide when to intensify the relation and to what extent.

Basically, B1 has few innovations in their process. All research and development activities are done by the mother company. Research in B1 basically focuses on the development and management of new packaging which fits more under the heading of exchange of critical information. B2 operations are considered as low tech as there are few R&D activities in their process. All R&D activities are focused on solving quality-related problems.

The limited room for innovation in B2 and B1, as well as the high levels of trust and the presence of collaborative culture between them, allowed smooth exchange of information bypassing any unforeseen problems and eradicating complexities whilst exchanging information.

In conclusion, it could be identified that the current degree of interaction (depth of the relation) between B1 and B2 was affected by several factors. The market dynamics (absence of other reliable suppliers), the smart use of the power difference by B1 and the absence of any form of innovation (absence of critical information) created an interdependent relation between them. The current intensity of the relation resulted from the interrelations between the intensity and potentiality factors. The following map draws the different interactions between the potentiality factors and the intensity factors and their effect over relation intensity:

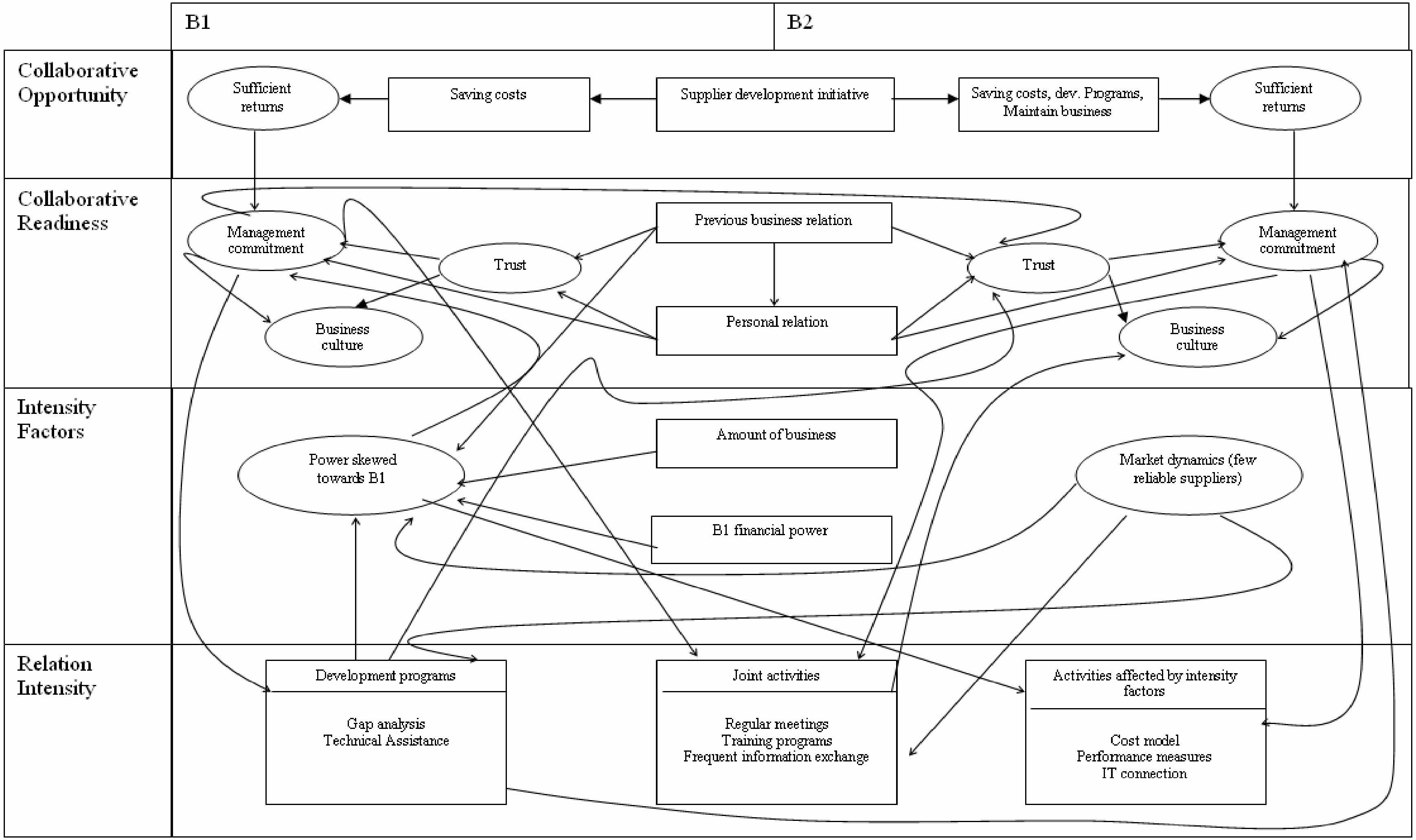


Figure 6-3-Conceptually ordered map (B1-B2)

6.2.5 Relation intensity:

The relation between B1 and B2 could be identified as a successful collaborative relation. In general, the relation is good, close and productive. It can be seen that the current relation under the current circumstances produces acceptable business results for both sides. They affirmed that the relation is open and that they never suffered from lack of information and usually receive the information that they need at the right time. This is evidenced in the following quotes:

"…We have a strong and close relation with them…"

B2 CEO

"…We share everything…we never feel that they hide any information…"

B1 Supply Manager

Under their partnership, B1 and B2 undertake several joint activities; leading to a certain level of partners' interaction. It could be identified that the power relation, the market dynamics, management commitment, trust and collaborative culture in the B1 and B2 collaborative venture, allowed for the current levels of interaction between them. The effect of the intensity and potentiality factors and their interrelations over the intensity of the relation could be seen in the range of the undertaken joint activities. The joint activities between them are centred on the regular meetings, exchanges of technical teams, cost model, gap analysis program, regular staff visits, training programs and the assessment for the performance. From the other side, it was noticed that B1 and B2 do not prepare any joint forecasts or joint promotions. They identified that they are serving in two totally different markets and they have weak access to each other's markets. They both agreed that joint forecasts or promotions will not provide any improvements in the forecast accuracy. Instead, they identified that they usually share their forecasts and future plans. In practice, B2 receives annual forecasts from B1 followed by rolling forecasts every month and hence are able to prepare their production plans in accordance. This helps B2 to shorten its lead time (as far as possible) and provide B1 with a more reliable service.

Although B1 and B2 have IT systems capable of exchanging information, there is still no IT link between them. However, they are expecting to implement VMI within 2-3 months

Apart from VMI implementation, both sides are quite satisfied with the relation. It could be seen that the current collaborative intensity under the current levels of potentiality and intensity factors and their interrelations is quite sufficient and produce appropriate results. In fact, the current relation produces quite acceptable results for both sides. This contradicts with Mouritsen et al (2003) hypothesis that the more the integration, the better the management of the chain and the better the results achieved. In addition, this result disagrees with Valsamakis and Groves (1996); Spekman et al (1998); Lee (2000); Simatupang and Sridharan (2005); Whipple and Russell (2007) and Duffy (2008) who highlighted the role of intensifying collaboration in reaching better business results.

6.2.6 Concluding remarks

The B1-B2 relation could be seen as a good example for successful collaborative relations. It could be identified that B1 and B2's desire to save costs, as well as the development programs offered by B1, were the major impetus for B1-B2 collaboration; it created good collaborative opportunity for both sides. The presence of top-management commitment, trustful relation and a supportive collaborative culture created suitable collaborative grounds for this collaborative relation.

The management commitment and the associated activities, coupled with the current levels of trust and collaborative culture, reflect the partners' degree of readiness to collaborate. It could be identified that the opportunity to collaborate and the partners' readiness to exploit this opportunity put B1 and B2 in a position of being potential candidates to collaborate and reflects the degree of their collaborative potential. This extends the work of Bititci et al (2007) who developed the synergy model to identify partners' readiness to collaborate. The model identified strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) as essential factors that would increase the chances of success for future collaborative enterprises. This research identifies that these factors are not sufficient for collaboration to succeed. It adds to this work by highlighting some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.

The role of personal relations over partners' relations could not be ignored. It could be seen as crucial for this collaborative relation to succeed. It played a significant role in heightening trust and commitment to the relation from both sides.

The power relation and the market dynamics played a significant role in determining the extent of B1-B2 collaboration. Despite the clear interdependence relation in B1-B2 business relation, the difference in power between them could not be ignored. B1, as a multinational company with its ability to provide developmental programs to B2 and the profits that B1 account provides to B2 put B1 in a better power position. From the other side, the nature of market dynamics and the ability of B2 to provide a high-quality and reliable service, coupled with the scarcity of finding other reliable suppliers, alleviated this power difference.

It could be identified that B1 used the power difference wisely to create a clear interdependence win-win partnership. However, the power difference allowed B1 to decide the time to implement VMI with B2. It could be identified that B1 has the ability to decide whether to intensify collaboration or not and when.

The effect of innovation over collaboration is not clear. B1 and B2 have few innovations in their processes. The limited room for innovation on both sides allowed smooth exchange of information bypassing any unforeseen problems and eradicating complexities whilst exchanging information.

It could be concluded that the ability of both sides to wisely manage their power relation, manage information exchange and bypass the effect of market dynamics allowed them to reach the current level of intensity in their relation.

The interrelations between some of the potentiality factors and the intensity factors were evident. Table 6-3 highlights the interrelations between the different factors.

In general, we can say that in spite of the absence of joint forecasts and promotions, collaboration tools to manage the relation and IT linkage, yet business collaboration between partners clearly exists. The relation between the two partners can be seen as good, collaborative and productive. Both partners are quite satisfied with this level of cooperation.

	Commitment	Culture	Trust	Power	Innovation	Market
Commitment	NA	Commitment allowed for establishing suitable collaborative culture.	B1 commitment allowed for better trust in B2's side through the development programs offered.	Commitment allowed bypassing the effect of power difference and creating interdependence relation.	Not identified	Commitment from both sides to undertake collaborative relation allowed for eradicating any effect of market dynamics over the relation.
Culture	Not identified	NA	Not identified	Not identified	Not identified	Not identified
Trust	Trust, being affected by personal relations, previous successful history allowed top management to be committed to the relation.	Trust allowed for the establishment of supportive collaborative culture	NA	Not identified	Not identified	Not identified
Power	The wise use of power from B1 allowed for further commitment from B2's side.	Not identified	The wise use of power from B1 allowed for heightening trust between the two sides.	NA	Not identified	Not identified
Innovation	Not identified	Not identified	Not identified	Not identified	NA	Not identified
Market	The absence of other reliable suppliers improved B1 commitment to the relation	Not identified	Not identified	Market dynamics and the absence of other reliable sources of supply manipulated the power difference and allowed for an interdependence relation to occur	Not identified	NA

Table 6-3-Interrelations table (B1-B2)

Each cell in the previous table represent the effect of the factors in first column on the factors in the first raw

It can be concluded that the current intensity of the relation could be seen as a factor of the intensity factors and their interrelations with the potentiality factors. The current intensity is the appropriate contingent to the potentiality and intensity factors and their interrelations. It is important to note that more intensity in the relation requires changes in the potentiality or intensity factors levels. For example, to undertake more joint activities may require changes in the level of commitment, changes in market dynamics or changes in degree of criticality in exchanged information.

6.2.7 Key learning points:

The following table (Table 6-4) aims to highlight the key learning points from this case study:

This case supports… • Returns from collaboration are not restricted to mere financial benefits. • Personal relationships allow better commitment to a relation. • Trust allows for further commitment and longer-term exchange business relation. • Sufficient returns are the major impetus to undertake a collaborative business venture. It triggers management commitment. • Commitment allows for the establishment of a supportive collaborative culture. • Commitment allows improving trust relation between partners. • Power plays an important role in determining the nature and level of partners' integration. • Power is not static and fluctuates according to market conditions. • Using power wisely and building win-win relations is crucial for the continuity of collaboration. It heightens commitment at the other side of the dyad. • The powerful side has the ability to use either smart power or harsh power. • The absence of market competition facing one side of the dyad (supplier side) alleviates the effect of power difference at the other side (buyer side). Hence, market dynamics can act as mediating factor in manipulating the power differences effect over collaborative relations. • The absence of market competition facing one side of a dyad is associated with diminishing its desire to intensify collaboration. • The absence of competition for one side of the dyad (supplier side) heightens commitment to collaborate at the other side (buyer side). • Commitment can act as a mediating factor in manipulating power differences.
This case disagrees with… • The hypothesis that the more the integration, the better the management of the chain and the better the results achieved. There is an appropriate intensity contingent to the potentiality and intensity factors and their interrelations.
This case extends… • The powerful side (whether using power difference coercively or non-coercively) has the ability to decide the degree of interaction in a relation and the time to intensify collaboration. • Strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) are essential factors that would increase the chances of success for future collaborative enterprises. These factors do not suffice for collaboration to succeed. There are some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.
This case identifies … • Personal relationships nurture trust in a relation. • The presence of suitable returns provides good opportunity for partners to collaborate; collaborative opportunity.

- The presence of commitment, trust and collaborative culture determines the degree of readiness to exploit collaborative opportunity; collaborative readiness.
- Collaborative potential is the combination of collaborative opportunity and collaborative readiness.
- Power relation and market dynamics and their interrelations with the potentiality factors play a significant role in determining the degree of partners' interaction; collaborative intensity.

Table 6-4-Key learning points (B1-B2)

6.3 Case study C:

6.3.1 Overview:

Partner 1 (C1) and partner 2 (C2) are two companies operating in the FMCG industry. C1 and its business partner, C2, were selected to assess their dyadic relationship. The reason behind this selection is the close relation and the long-standing history between the two companies.

C1 provides 400 different brands spanning 14 categories of home, personal care and food products. C1 is responsible for supplying Egypt, Lebanon, Palestine, Jordan, Iraq, Sudan, and Syria. Generally, C1 is classifying its suppliers into local, regional and global suppliers. Local suppliers are those supplying Mashreq; regional suppliers are supplying NAME while global suppliers are those that are supplying all C1 sites worldwide.

C2 is a local supplier of flexible packaging to C1. C2 has operated in the Egyptian market for more than 20 years. They started their business in 1986 when they established a small company for printing and packing in Al Amria. In 1993, they moved the factory to Borg El Arab industrial zone and changed the company name to C2.

C1, a multinational company, located and operating in Egypt with its mother company in UK, is considered a low-tech company since its expenditure on research and development is weak. All researches and new innovations are developed and managed from the mother company in UK. C2, an SME operating in Egypt, is also considered a low-tech company as it has no expenditure on research and development.

6.3.2 Nature and history of the relation:

The first formal collaborative relation between C1 and C2 started in 2006, when C1 started its supplier development program. This program aimed to develop collaborative relations with strategic suppliers, develop their processes and identify cost-saving opportunities for the mutual benefit of C1 and its suppliers. The business relation between C1 and C2 is close and extends over a period of more than 15 years. This good relation was demonstrated in C2 supplying 70% of C1 needs from flexible packaging. This percentage represents around 30-40% from the total sales of C2.

6.3.3 Potentiality to collaborate

At the start-up of C1 supplier development initiative, they classified their suppliers as gold, silver and bronze, with gold suppliers as the most important suppliers to C1. The classification was based on the degree of market complexity (availability of other suppliers, imported vs. local suppliers) and the degree of dependency on the supplier (amount of purchases).

The first trigger for C1-C2 collaborative relation was when C1 classified C2 as a gold supplier. This selection reflects the importance of C2 to C1 business and the high desire for identifying cost saving opportunities in C1-C2 business relation. In turn, C2 showed great interest in participating in this initiative. C1 account generates high profits to C2 and participation means increasing their profits (or at least maintaining C1 account). Besides, the ability of C1 to provide development programs to its suppliers was an important motive for C2 to participate in this initiative.

It could be seen that saving costs was the major impetus for C1 to undertake collaborative relation with C2. The close relation with C2 represents a good opportunity to reduce the costs of their packaging materials; hence becoming more competitive in the highly-contested market they are serving. From C2 side, maintaining C1 account, developmental programs as well as saving costs motivates C2 to undertake such a collaborative venture. It could be identified that having collaborative relation with C1 represents good opportunity to C2 to improve their profits and benefit from the developmental programs offered by C1. This supports previous studies that identified close inter-firm relation returns as not restricted to commercial goals and financial profits (Nummela, 2003) but extends to include increasing knowledge, sharing risk, sales growth, product development, market development (Wu and Cavusgil, 2005), increase information flow, reduced uncertainty (Fiala, 2004) and development programs for partners (Ghijsen et al, 2009).

The successful previous business relation between C1 and C2 allowed trust to exist between them. This successful history allowed C1 Regional Packaging Materials Supply Manager and C2 Managing Director to develop a good personal relationship which, in turn, allowed for heightening trust and commitment to undertake collaborative relation. Both sides highlighted the importance of personal relationships in reaching close business relations. This also supports the work of Nummela (2003) who noted that social bonds and personal relationships act as an effective mediator, hence allowing for better support and commitment.

It should be noted that managers at a more senior level showed more appreciation of the importance of personal and social relationships than in lower managerial levels. This is evidenced in the following quote:

"...it is important to build personal relations with suppliers to ensure relations' continuity...at a more senior level personal relations are important..."

C1 Regional Packaging Materials Supply Manager

The existence of quite a high level of trust between both sides, coupled with the potential sufficient returns, allowed top management from both sides to be committed to collaborate. This supports the argument that mutual trust allows for further commitment and a longer-term exchange business relation (Gundlach et al, 1995; Morgan and Hunt, 1994). It also supports Barratt (2004) and Wu and Cavusgil (2005) contention that the mutual expected outcome is the major impetus for partners to participate in any collaborative relation. It should be noted that the development programs provided by C1 reflect top management commitment from the C1 side and, in turn, allowed for further trust and commitment from the C2 side.

Top-management commitment to collaboration from both partners is evident. During the start-up of the supplier development initiative, top-management representatives from both companies affirmed explicitly that they were willing to undertake collaborative relation and that they were totally committed to participating in the initiative. The supplier development initiative is clear evidence for C1 appreciation and commitment to build close and collaborative relations with its suppliers. This is evidenced in the following:

"…The supplier development initiative is a clear demonstration for our top management commitment to build collaborative relations with partners…"

C1 Assistant Packaging Materials Supply Manager

On the other hand, C2 participation in this initiative is clear evidence for their management commitment to build a collaborative relation with C1.

C1 commitment to the relation was demonstrated through conducting a gap analysis for C2. At the beginning of their collaborative venture, C1 assigned and participated with third party consultants to analyze gaps in C2's operations and prepare closure programs for them. The regular audits and monitoring activities by C1, for the implementation of these programs, reflects the full commitment from C1 to the success of the relation.

In addition, both partners' commitment was demonstrated in several joint activities; regular meetings, reciprocal technical visits and cost model development.

The regular meetings, on a monthly basis, between companies' representatives can also show the nature of relation between both sides and the high degree of commitment from top management to initiate and build good relation between both companies. The participation of the C2 Managing Director in all the meetings reflects the commitment to the relation.

In addition, both companies regularly undertake reciprocal technical teams' visits (quality and production people) with the aim of understanding and appreciating the processes of each other's role as well as smoothing the work flow.

C2 top management commitment was further reflected when they developed their cost model with C1. The cost model requires C2 to be open and to disclose the commodity price (very confidential information) showing the degree of openness from C2 side to C1 and hence reflecting their high commitment.

The collaborative business culture in C1 differs from that in C2. It could be identified that collaborative culture exists in both sides with different degrees of maturity.

C1 top-management commitment was noticeably cascaded down to different employees' levels providing suitable grounds towards building a collaborative business culture. The positive perception for both interviewed managers (two different managerial levels) about the nature of exchanging information internally and externally shows the prevailing culture within C1. The supplier development initiative and the involvement of several middle-level managers in it demonstrate C1's top-management commitment to collaboration; hence providing an adequate platform for building a suitable business culture that supports collaboration.

Top-management commitment in C2 and the undertaken joint activities with C1 helped in triggering a collaborative culture in C2. This supports Gundlach et al (1995) argument that the presence of well-established reciprocal commitment in a relation nurtures collaborative culture.

Although C2 top management identified that the organization culture acknowledges C1's role in the success of their business, they confessed that the collaborative culture within C2 still needs further development. The Managing Director identified that they are making a continuous effort to monitor and advise shop-floor employees; hence allowing for nurturing a collaborative culture within C2.

"…we are continuously trying to convey the importance of C1 to all company workers…it is important to teach them the importance of C1, how to respond quickly to their requirements…"

C2 Managing Director

The Managing Director and the Plant Manager identified that they are continuously trying to convey the message that the relation with C1 is of crucial importance to C2.

"…the amount of business with them and the presence of C1 products over our production lines almost all the time helped us in highlighting the importance of C1 to our company…"

C2 Plant Manager

To conclude, it could be identified that participation in the supplier development initiative represents a good opportunity (collaborative opportunity) for C1 to save costs and for C2 to maintain business, save costs and participate in C1 development programs. These expected benefits and returns from collaboration were the major impetus for the two companies to undertake their collaborative venture.

In addition, commitment, culture, trust and their interrelations could be seen as factors that affect the degree of readiness of partners to utilize this collaborative opportunity.

The presence of collaborative opportunity (potential returns) and the collaborative readiness of partners (the presence of commitment, culture and trust) to utilize that opportunity reflect high potentiality of the two partners to undertake a collaborative business relation; collaborative potential.

The presence of a quite acceptable level of commitment, culture and trust as well as sufficient returns (potentiality factors) could reflect the potentiality of partners to collaborate but how can partners determine the extent and the degree of their collaboration; the collaborative intensity of the relation. It seems that some other factors affect the intensity of the partners' relation.

6.3.4 Intensity factors

The relation between C1 and C2 could be identified as an interdependent relation. C1 top-management commitment and the wise use of power difference by C1 played a significant role in creating this interdependence relation.

The effect of power differences and market dynamics over the intensity of the relation was evident.

It should be highlighted that C1 supplier development initiative acknowledged the importance of collaboration with various degrees of interactions with partners. C1 classified its suppliers as gold, silver and bronze based on the market dynamics and the degree of dependency on that partner. They determine the degree of interaction and the level of joint activities with their suppliers in accordance.

As the market dynamics facing suppliers' increases, the level of C1 commitment to intensify the interaction diminishes. From the other side, as the Market dynamics facing suppliers decrease, the level of C1 commitment to undertake collaborative arrangements heightens.

In addition, as the degree of dependency increases, the commitment to deepen collaborative relation increases and vice versa. The market dynamics and the degree of dependency play considerable role in determining the level of C1 commitment to a relation.

Both partners admitted that power plays an important role in shaping business relations. They both admitted that the powerful partner is able to shape and direct the relation to his own interest. This result affirms Stannack (1996) and Ogbonna and Wilkinson (1998) previous study in which they identified that power provides the ability to control one's own/another entity's range of intended or actual action. Besides, it supports Skjoett (2006) and Cox et al (2004) contention that power plays an important role in determining the nature and level of supply chains integration.

The power relation between the two companies is clearly skewed towards C1. The financial capabilities, the high volume of purchases, the ability to provide its suppliers with development programs and being a principle customer to C2 (40 % from C2 annual sales) puts C1 in a better power position.

Besides, it could be identified that the market dynamics played a significant role in amplifying the power difference between them. This supports Lai (2008) argument that market competition affects power relation and its usage. The nature of the market is a significant player in determining the extent of influence that can be exerted in collaborative relation.

Both parties agreed that the market competition facing C2 is quite severe. The reason for this is that the market of flexible packaging is full of several small and large players that compete severely based on cost, reliability and quality. The ease of switching from one supplier to another and the absence of any form of innovation in C2's operations amplifies the competition. Besides, the willingness of variety of suppliers to be part of C1 supplier's network further amplifies the market competition facing C2.

It could be identified that this high competition increased the power difference between the two companies and provides C1 with a better opportunity to get better prices and to choose from among a variety of suppliers. This is evidenced in the following quote:

"...the high competition facing C2 allows for getting better prices..."

C1 Assistant Packaging Materials Supply Manager

From C2's side, the high competition they face and the availability of other sources of supply to C1 improves the willingness to have close and collaborative relation with C1. This is evidenced in the following quote:

"…the high competition that we face dictates having close relation with C1…"

C2 Plant Manager

This supports Fawcett et al (2006) argument that the more dependent partner displays a greater level of commitment to keep the relation intact. In addition it ensures Ghijsen et al (2009) contention that high competitive market lead to suppliers competing severely for business and striving to maintain the relationship with partners.

Although of this clear power difference between the two partners, it could be identified that C1 top-management commitment to collaborate, top-management appreciation of the role of collaboration in providing better business results, C1's desire to localize their packaging purchases coupled with the good and reliable service that they receive from C2, played a considerable role in alleviating the power and market dynamics effect.

This supports Lai (2008) argument that the existence of moderating variables can play an important role in manipulating the effect of power asymmetry over collaborative relations.

It is clear that C1 was able to create interdependence relation with C2 for the mutual benefits of both parties. C1 exploited this power difference wisely to create a win-win collaborative business relation with C2. This is evidenced in the following quote:

"…it is important to identify mutual gains for any collaborative efforts…if partners didn't get benefits; they would dismiss the relation sooner or later…"

C1 Regional Packaging Materials Supply Manager

Interviewees (from C1) explicitly identified that C1 never abuse power differences with partners while managing business relations. They identified that C1 consider creating win-win partnerships as the best way in maintaining long-term successful business relations. This was affirmed by the C2 Managing Director and Plant Manager when they identified that C1 are always trying to build win-win partnership with them. They distinguished between C1's possession of power and the fact that they never abused that power. This is evidenced in the following quote:

"…C1 never use power difference or purchasing volumes when they are negotiating terms and conditions with us…"

C2 Plant Manager

The previous discussion supports Hingely (2005 B) contention that the presence of power imbalance does not mean that it is always explicitly exercised in supply chain relationships.

The effect of power over the intensity of the relation could be seen in the performance measures (prepared by C1) and the cost model. The cost model proves the ability of C1, the powerful side, to influence C2's decision to accept disclosing all of its pricing structure for C1. Besides, C1 developed some performance measures that C2 should use and follow to assess the performance of the relation. This result extends the work of Ghijsen et al (2009) who identified that the asymmetric power relation allows the powerful side to influence the behavior of the other. It could be identified that whether the powerful side used coercive or non-coercive power, it has the ability to decide when to intensify the relation and to what extent.

Basically, C1 (Mashreq) has few innovations in their process. All research and development activities are done by the mother company. Research in C1 (Mashreq) basically focuses on the development and management of new packaging which fits more under the heading of exchange of critical information. C2's operations are considered as low tech with nil-percentage expenditure in innovation. They receive the design from C1 and their major role is focused on producing the printing packaging materials for C1.

The limited room for innovation in C2 and C1 allowed smooth exchange of information (bypassing the problem of the C2 business culture) and eradicated complexities while exchanging information. Besides, it could be identified that the short lead time of C2 gives the opportunity to disclose confidential information to C2 in a relatively short time without any effect over C2's performance and without the fear of disclosure of confidential information. Besides, the absence of any form of innovation in C2's operations further amplified market competition facing them.

In conclusion, it could be identified that the current degree of interaction (depth of the relation) between C1 and C2 was affected by several factors. The high market competition, the wise use of the power difference by C1 and the absence of any form of innovation (absence of critical information) created an interdependence relation between them; hence allowing them to collaborate. The current intensity of the relation resulted from the interrelations between the intensity and potentiality factors.

The following map draws the relations and interrelations between the potentiality factors and the intensity factors as well as identifying the current degree of interaction between them.

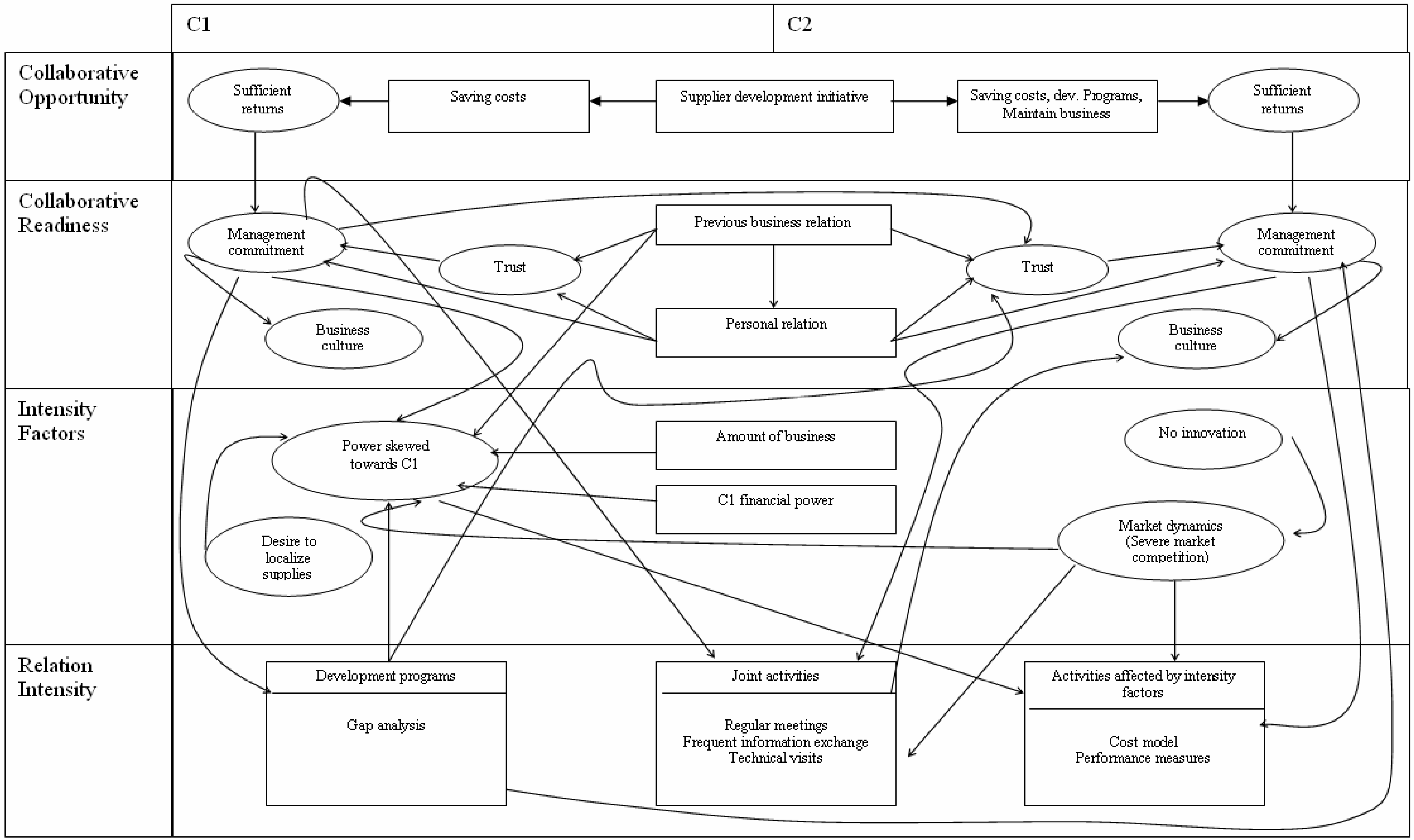


Figure 6-4-Conceptually ordered map (C1-C2)

6.3.5 Relation intensity:

The relation between C1 and C2 could be identified as a productive and successful collaborative business relation. It can be seen that the current relation under the current circumstances produces quite acceptable results for them. Both sides affirmed that the relation is open; they never suffer from lack of information and usually receive the information that they need at the right time.

The depth of the C1-C2 collaborative relation and the range of activities undertaken under this partnership are mainly determined by the market dynamics and the degree of dependency between them (power relation).

Under their partnership, C1 and C2 undertake several joint activities and abandon others. The joint activities between them are centred on the regular meetings, cost model, reciprocal technical teams' visits and gap analysis program. From the other side, it was noticed that C1 and C2 do not prepare any joint forecasts or joint promotions. They identified that they are serving in two totally different markets and that they have weak access to each other's market information. They both agreed that joint forecasts or promotions will not provide any improvements in the forecast accuracy. Instead, they identified that they usually share their forecasts and future plans. In practice, C2 receives annual forecasts from C1 followed by rolling forecasts every month and hence are able to prepare their production plans in accordance. This helps C2 to shorten its lead time (as far as possible) and provides C1 with a more reliable service.

Although C1 has an IT system that facilitates exchanging information internally between different functions and externally with suppliers, there is no IT link between C1 and C2. C1 IT system allowed them to implement Vendor Managed Inventory (VMI) with some of its gold business partners, but they did not show willingness to implement this system (or any form of IT connections) with C2. The main reason behind this is the simple nature of C2's industry and the short lead time in C2 which reached 4 or 7 days (one time it reached 2 days). They think that using IT linkage will not provide better results, at least for the time being.

Besides, the IT capabilities at C2 are very limited, which inhibits any opportunity to have such a link. Although C2's Plant Manager acknowledged the importance of having IT linkage (both internally and externally with C1), he identified that the current way of exchanging information is quite satisfactory.

The current collaborative intensity in the C1-C2 partnership, under the current levels of potentiality and intensity factors and their interrelations, is quite sufficient and produces appropriate results. This contradicts with Mouritsen et al (2003) hypothesis that the more the integration, the better the management of the chain and the better the results achieved. In addition, this result disagrees with Valsamakis and Groves (1996); Spekman et al (1998); Lee (2000); Simatupang and Sridharan (2005); Whipple and Russell (2007) and Duffy (2008) that highlighted the role of intensifying collaboration in reaching better business results

6.3.6 Concluding remarks

The C1-C2 relation could be seen as a good example for collaborative relations. It could be identified that C1 and C2 desire to save costs as well as the development programs offered by C1 were the major impetus for the C1-C2 collaboration; it created a good collaborative opportunity for both sides. The presence of top-management commitment, a trustful relation and supportive collaborative culture created suitable collaborative grounds for this collaborative relation.

The management commitment and the associated activities, coupled with the current levels of trust and collaborative culture, reflects the partners' degree of readiness to collaborate. It could be identified that the opportunity to collaborate and the partners' readiness to exploit this opportunity put C1 and C2 in a position of being potential candidates to collaborate and reflect the degree of their collaborative potential. This extends the work of Bititci et al (2007) who developed the synergy model to identify partners' readiness to collaborate. The model identified strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) as essential factors that would increase the chances of success for future collaborative enterprises. This research identifies that these factors are not sufficient for collaboration to succeed. It adds on this work by highlighting some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.

The role of personal relations over partners' relations could not be ignored. It could be seen as crucial for this collaborative relation to succeed. It played a significant role in heightening trust and commitment to the relation from both sides.

The power relation and the market dynamics played a significant role in determining the extent of the C1-C2 collaboration. The high market competition facing C2 and the availability of several other suppliers, C1's developmental programs and the profits for C2 from C1 account puts C1 in a better position in terms of power. From the other side, C1's desire to localize their packaging materials supplies, coupled with the high quality and reliable service from C2 and C1's appreciation of the role of collaboration, alleviated power differences and allowed for the creation of an interdependence relation between them.

The effect of innovation (exchanging critical information) over collaboration is not clear. C1 and C2 have few innovations in their processes. The limited room for innovation on both sides allowed smooth exchange of information, bypassing any unforeseen problems and eradicating complexities whilst exchanging information.

It could be concluded that the current market dynamics, the ability to wisely manage the power relation and information exchange allowed C1-C2 to reach the current level of intensity in their relation.

The interrelations between some of the potentiality factors and the intensity factors were evident. Table 6-5 highlights the interrelations between the different factors.

In general, we can say that in spite of the absence of joint forecasts and promotions, collaboration tools to manage the relation and IT linkage, yet business collaboration between partners clearly exists. The relation between the two partners can be seen as good, collaborative and productive. Both partners are quite satisfied with this level of cooperation and are not willing to do more, at least in the near future. The current intensity under the current circumstances is quite productive and quite suitable to produce acceptable business results for both sides.

	Commitment	Culture	Trust	Power	Innovation	Market
Commitment	NA	Commitment is the major driver for some cultural change to support collaborative efforts in C2.	C1 commitment to the relation exemplified in the developmental programs offered, improved the trust from C2's side.	Commitment allowed bypassing the effect of power difference and creating an interdependence relation.	Not identified	Commitment from both sides to undertake a collaborative relation allowed for alleviating effect of market dynamics over the relation.
Culture	Not identified	NA	Not identified	Not identified	Not identified.	Not identified
Trust	Trust, being affected by personal relations, previous successful history allowed top management to be committed to the relation.	Not identified	NA	Not identified	Not identified	Not identified
Power	The wise use of power from C1 allowed for further commitment from C2 side.	Not identified	The wise use of power from C1 heightened trust from C2 side.	NA	Not identified	Not identified
Innovation	Not identified	Not identified	Not identified	The absence of any form of innovation at C2's side amplified the power difference between the two partners.	NA	The absence of any form of innovation in C2's operations amplifies market competition facing them.
Market	The high market competition facing C2 heightened their commitment to the relation.	Not identified	Not identified	The high market competition facing C2 heightened power differences with C1.	Not identified	NA

Table 6-5-Interrelations table (C1-C2)

Each cell in the previous table represent the effect of the factors in first column on the factors in the first raw

It can be concluded that the current intensity of the relation could be seen as a factor of the intensity factors and their interrelations with the potentiality factors. The current intensity is appropriate contingent to the potentiality and intensity factors and their interrelations. It is important to note that more intensity in the relation requires changes in the potentiality or intensity factors levels. For example, C1's desire to provide intensified training to C2 may increase if the market dynamics change or the level of C1 commitment increases.

6.3.7 Key learning points:

The following table (table 6-6) aims to highlight the key learning points from this case study:

This case supports… • Returns from collaboration are not restricted to mere financial benefits. • Returns motivate undertaking collaborative business relation. • Sufficient returns trigger commitment to undertake collaborative business relation. • Personal relationships allow better commitment to a relation. • Trust allows for further commitment and longer-term exchange business relation. • Commitment allows for the establishment of supportive collaborative culture. • Power plays an important role in determining the nature and level of partners' integration. • Market dynamics (the presence of multiple sources of supply to C1) amplifies power differences in a relation. • The presence of high market competition affects the level of partners' commitment to a relation. • The increase in dependency at one side motivates more commitment. • The presence of high market competition at one side is associated by the desire, from that side, to intensify collaborative interactions. • Commitment alleviates power differences effect. • Commitment alleviates market competition effect. • There is difference between possession of power and the actual use of power in a relation. • Using power wisely and building a win-win relation is crucial for the continuity of collaboration. It heightens commitment to the relations. • Using power wisely by the powerful side heightens trust at the other side of the dyad. • The absence of any form of innovation at one side heightens power differences between partners. • The absence of any form of innovation at one side heightens market competition that it faces.
This case disagrees with… • The hypothesis that the more the integration, the better the management of the chain and the better the results achieved. There is an appropriate intensity contingent to the potentiality and intensity factors and their interrelations.
This case extends… • The fact that the powerful side (whether using power difference coercively or non-coercively) has the ability to decide the degree of interaction and the depth of the relation and the time to intensify collaboration. • Strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) are essential factors that would increase the chances of success for future collaborative enterprises. These factors are not sufficient for collaboration to succeed. There are some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.
This case identifies … • Personal relationships nurture trust in a relation. • Managers at a more senior level show more appreciation of the importance of personal

relationships than in lower managerial levels. • The absence of any form of innovation at one side hinders the desire to intensify interactions from the other side of the dyad. • The presence of suitable returns provides good opportunity for partners to collaborate; collaborative opportunity. • The presence of commitment, trust and collaborative culture determines the degree of readiness to exploit collaborative opportunity; collaborative readiness. • Collaborative potential is the combination of collaborative opportunity and collaborative readiness. • Power relation and market dynamics and their interrelations with the potentiality factors play a significant role in determining the degree of partners' interaction; collaborative intensity.

Table 6-6-Key learning points (C1-C2)

6.4 Case study D:

6.4.1 Overview:

Partner 1 (D1) and partner 2 (D2) are two companies operating in the pharmaceutical and medical devices' markets consecutively. D1 and its business partner, D2, were selected to assess their dyadic relationship. The reason behind this selection is the close relation and the long-standing history between the two companies.

D1, a wholly owned subsidiary of a US based biopharmaceutical company develops proprietary products for the pharmaceutical market, based on its own, unique drug-delivery systems. The company produces one product that has been successfully developed, registered and launched around the world. They are producing a polymer drug delivery technology (human birth induction system) that is capable of providing controlled release of a range of drug molecules over periods up to 24 hours.

D2, part of a large Japanese company, is one of the world's leading designers, manufacturers and marketers of vascular prostheses, which are used worldwide by vascular and cardiovascular surgeons in the treatment of aneurismal or occlusive arterial disease. D2 has two main categories of products; vascular craft (95%) and non-vascular craft (5%).

D1, an SME operating in UK, is considered a high-tech company since its expenditure in innovation represents around 20% from its total annual sales. D2, a large company with around 500 employees operating in UK, is also considered a high-tech company as the development of patented devices is considered a crucial part of their business.

6.4.2 Nature and history of the relation:

D1 and D2 started their business relation 15 years ago when they jointly developed a usable retrieval device for D1 drug-delivery system. This long history of business relation allowed both sides to develop and maintain a close and collaborative relation. D2 is considered a crucial partner to D1 as they are supplying 100% of D1 retrieval device. Although D1 is representing a small amount from D2 total sales, around 3-4 %, D2 is considering entering the pharmaceutical market, a strategic goal, hence considering D1 as a strategic partner.

6.4.3 Potentiality to collaborate

The first trigger of collaborative relation between D1 and D2 started when D1 faced difficulty in retrieving its human-birth induction drug. R&D teams in D1 and D2 worked collaboratively to develop a process that yielded a usable retrieval device for D1 drug-delivery system. The participation in the development of this device allowed for the introduction of a patented human birth induction system that provides controlled release of drug molecules as well as the ability to retrieve the drug. The two partners signed a non-disclosure and confidentiality agreement as well as IP rights agreement. The agreements guarantee that D2 is not able to sell the retrieval device to any other company without prior acceptance from D1. Also D1 is not allowed to buy the retrieval device from any other supplier without prior acceptance from D2. Besides, it facilitates smooth information exchange without the fear of disclosing any confidential information.

It could be identified that the desire of D1 to develop its retrieval system was the main motive to undertake a collaborative relation with D2. The joint work with D2 represents a good opportunity for D1 to improve the retrieval mechanism for their medicine.

From the D2 side, their strategic goal to enter the pharmaceutical market motivates them to undertake such venture. It could be identified that having a close relation with D1 represents a good opportunity for them to penetrate the pharmaceutical market. This is evidenced in the following quote:

"…it's a critical part of our business…it's a good business for D2…we are active to go into that business…we want to keep that business…"

D2 Continuous Improvement Manager

The previous argument supports Kanter (1994) who identified that the risk of missing a rare opportunity motivates firms to enter into close relationships with open-ended possibilities beyond just clear financial payoffs. This is clear in D2's strategic decision to enter this market and have a collaborative relation with D1 despite the small contribution of D1 to their total sales.

The D2 business could be considered an R&D-oriented business as they usually participate in customers' product development projects; hence encouraging close and collaborative work with customers. From the other side, the nature of D1 products (existing and potential) necessitates continuous R&D efforts, which in turn dictate having collaborative efforts with Universities and other organizations. It could be identified that the nature of D2 and D1 business necessitates massive top-management appreciation and commitment for close and collaborative relations with partners.

The potential expected benefits from the joint development of the retrieval device allowed for top management from both sides to be committed to the relation. This supports Hausman and Johnston (2009) argument that commitment to collaboration results from the belief that relationship outcome is worth the effort required to ensure its survival.

This joint project could be seen as the first trigger to build a trustful relation between both sides. The associated non-disclosure and IP rights agreements provided a suitable platform for trust to exist between them. The long-standing history that extends over a period of 15 years of successful business results allowed partners to build a close personal relationship. It should be noted that both sides highlighted the role of personal relations over the continuity and prosperity of business relations. This is evidenced in the following quote:

"...personal relationships help in making business relations proceed…"

D2 Continuous Improvement Manager

This personal relationship played a considerable role in heightening partners' commitment to the relation. This supports Nummela (2003) previous result that social bonds and personal relationships can act as an effective mediator, hence allowing for better support and commitment.

Besides, personal relationship coupled with the successful history helped in nurturing trust between the two sides. This is evidenced in the following quote:

"…we worked with them for a long time, resolved various issues over years…we have a good relation, good time and experience with them… helped in building trustful relation between us …"

D1 Operations Director

In addition, the presence of top-management support and commitment to the joint research provided suitable grounds for a trust relation to nourish. This in turn allowed for further top-management commitment, from both sides, to keep their relation intact. This supports Gundlach et al (1995) previous study which identified that the presence of well-established reciprocal commitment in a relation nurtures mutual trust which, in turn, allows for further commitment and a longer-term exchange business relation.

From the interviews, top-management commitment from both sides was evident. Representatives from both companies affirmed explicitly the importance of having a close business relation for the success of any R&D joint project. This is evidenced in the following quote:

"…close relations absolutely provide better results than transactional relations…"

D1 Operations Director

"…we always prefer to have close relations with our customers…"

D2 Continuous Improvement Manager

The partners' commitment was reflected in several joint activities; the most important being the joint development of the retrieval device. Besides, partners undertake reciprocal technical assistance visits, joint training and the sharing of future plans and directions.

Commitment from both sides allowed for frequent two-way technical employees' exchange. Technical assistance allowed the exchange of technical teams to promote mutual awareness of both sides' business processes. People from D1 go to D2 and spend some time seeing the retrieval device being manufactured and people from D2 go to D1 to see the retrievable drug being manufactured.

In addition, D2 participated, as material supplier, with D1 in Kaisen continuous improvement project to improve the filling process of D1.

Top-management commitment was further reflected in the intention to jointly investigate improvement opportunities to the production process of D2 (not exclusively the retrieval system production) and make it more efficient to cope with any increase in demand.

The collaborative culture in D1 and D2 could be identified as a supportive culture to collaborative relations. The nature of business in D1 and D2 (being R&D focused) played a significant role in appreciating collaborative work and hence allowed for the establishment of a supportive collaborative culture in both companies. This is evidenced in the following:

"... company is always driven by new product innovation…our Managing Director is a very R&D focused person… when you are involved in developing a new product with another company, it is natural to have a close relationship… "

D2 Continuous Improvement Manager

"...R&D work requires various collaborative efforts with different parties…we have a company-wide culture that appreciates collaborative business relations…"

D1 Operations Director

The joint development of the retrieval device allowed acknowledging the role of each other, the importance of having collaborative efforts, and how collaborative work yields good results. The perception of the Continuous Improvement Manager that almost all their projects require having close relations with customers reflects the prevailing business culture in D2. The nature of the D2 culture could be inferred from the following statement:

"…if we work early with customers, and help them understand what they need and what we can do…with this collaborative approach we can reach good results…"

D2 Continuous Improvement Manager

Top-management efforts, to build a collaborative culture in both sides, were clear. Top management in D2 are continuously trying to build a supportive culture through providing some training programs for its staff members. They usually provide training on customers products to let them better understand and appreciate partners' products. In addition, D2 sometimes present videos to employees to understand what D1 products look like in their final form to appreciate the importance of the product. From D1 side, the R&D nature of their business helped in developing a company-wide appreciation of the role of collaborative interactions in the success of developmental efforts. D1 top management are continuously engaging its work force in cross-functional improvement teams, which further allowed for the establishment of a collaborative culture and highlighted the importance of sharing and circulating information. This affirms Nummela (2003) and Gundlach et al (1995) previous results that commitment allows for the establishment of a supportive collaborative culture.

Besides, the exchange of technical expertise and the reciprocal visits of technical staff between D1 and D2 further helped in promoting a collaborative culture in both sides. This is evidenced in the following quote:

"...we involve our people with customers through technical exchange and mutual visits to customers...this allows for appreciating collaborative work..."

D2 Continuous Improvement Manager

To conclude, it could be seen that the joint development of the retrieval device represented a good opportunity (collaborative opportunity) for D1 to develop its retrieval system and for D2 to enter the pharmaceutical market; hence creating the motive for the two companies to undertake their collaborative venture. This confirms previous results that identified close inter-firm relation returns are not restricted to commercial goals and financial profits (Nummela, 2003).

In addition, commitment, culture, trust and their interrelations could be seen as factors that determine the readiness of partners to collaborate. These factors established suitable grounds for the two companies to interact collaboratively; allowing the two partners to exploit this collaborative opportunity. The presence of collaborative opportunity (potential returns) and the collaborative readiness of partners (the presence of commitment, culture and trust) to utilize that opportunity, reflect high potentiality of the two partners to undertake a collaborative business relation; collaborative potential.

The presence of quite acceptable levels of commitment, culture and trust as well as sufficient returns (potentiality factors) could reflect the potentiality of partners to collaborate but how can partners determine the extent and the degree of their collaboration; the collaborative intensity of the relation. It seems that some other factors affect the intensity of the partners' relation.

6.4.4 Intensity factors

The relation between D1 and D2 could be identified as a highly- interdependent relation. The joint development of the retrieval device and the associated agreements influenced the power relation, market dynamic and innovation (exchanging critical information) between the two partners. Hence, leading to a high degree of partners' interaction as well as creating an interdependence relation between them.

The joint development of the retrieval device and the associated agreements created a market of one customer and one supplier; the D1 product is unique and they are the only customer for D2's retrieval device and D2 is the only supplier of the retrieval device. It could be identified that the absence of other suppliers and customers and the signed agreements eradicated any effect for market competition and created a special link of interdependence and desire from both sides to intensify their interaction. Hence, this created the desire from both sides to intensify their collaboration. This goes in the same vein with Wu and Cavusgil (2005) previous results that identify the high market dynamics as motives for more collaborative business relations. This means that the absence of other sources of supply (or other markets) improves partners' desire to intensify their collaboration.

In turn, the absence of market competition and its effect over the power relation and the exchange of critical information (innovation) between D1 and D2 could not be ignored. The presence of one customer and one supplier helped in manipulating any power difference between D1 and D2. While both interviewees acknowledged the role that power differences play in shaping business relations, they identified that power does not affect their relation. Although theoretically D2 is in a better position in terms of power (D2 are supplying 100 % of D1 retrieval device and this represents around 3-4 % from their total annual sales), it could be highlighted that the power game has no effect over their relation. The joint development of the retrieval device and the associated agreements, the strategic orientation of D2 and their goal to enter the pharmaceutical market, D1's desire to improve its retrieval mechanism, management commitment to the relation and the absence of other suppliers and customers (market dynamics) played a significant role in establishing an interdependence power relation between them. This supports previous studies which identified that the nature of the market plays a significant role in determining the suitable level of influence which can be exerted in a collaborative relation (Lai, 2008 and Ogbonna and Wilkinson, 1998). This also affirms Ogbonna and Wilkinson (1998) contention that a well-established commitment reduces the effect of power differences.

The market dynamics in the D1-D2 business relation affected the exchange of critical and innovative information. The fact that D2 is the only supplier and D1 is the only customer for the retrieval device eliminates the fear of disclosure of confidential information; hence allowing for better opportunity to share any critical information. It should be noted that the retrieval system was jointly developed from day one which leads to better opportunity to share information between them. In addition, the signed confidentiality and IP agreements, coupled with the presence of quite acceptable levels of trust and management commitment make the disclosure of information between the two partners secure. This supports Nummela (2003) argument who assumed that more commitment to co-operative behavior leads to more positive attitudes towards cooperation. This assumption acknowledges the effect of high levels of commitment on facilitating the sharing of information between collaborating partners. In addition, it supports Child (2001) contention that trust between collaborating organizations or corporate units encourages openness in exchanging ideas and information.

Both interviewees identified that they usually share everything; even their future plans and improvement programs. The recent trials of D1 to automate some of their processes, and the discussion between the two sides about this project reflect the high degree of openness even with the exchange of strategic development information. This is evidenced in the following:

"…exchanging critical information didn't represent a problem at any time and if there is an issue needs to be resolved, any information could be shared…"

D1 Operations Director

It should be highlighted that any improvement efforts in any one company may affect the operations of the other partner; leading to a high degree of openness in D1-D2 business relation. Both interviewees identified that any improvements or new ideas for improvement should be discussed with the other side first because this may lead to changes that do not fit the other partner's production machines and operations. This is evidenced in the following quote:

"…we continue to work together to make improvements…our agreement dictates that we cannot make any changes without arranging with them…in order to make changes to our process, D1 probably will have to make some changes in their processes, approvals, etc…"

D2 Continuous Improvement Manager

In conclusion, it could be identified that the current degree of interaction (depth of the relation) between D1 and D2 was affected by several factors. The market dynamics (one customer-one supplier) created by the joint development of the retrieval device led to a clear interdependence relation between them; hence allowing them to intensify their interaction. The intensity of the relation resulted also from the elimination of power differences and the high degree of openness in exchanging critical and confidential information. It should be highlighted that power, innovation and market dynamics and their interrelations contributed significantly in reaching the current levels of D1-D2 collaborative relation interaction. It should also be emphasized that the intensity factors and their effect over the potentiality factors, played a significant role in reaching the current intensity for their relation. The following map draws the relations and interrelations between the potentiality factors and the intensity factors.

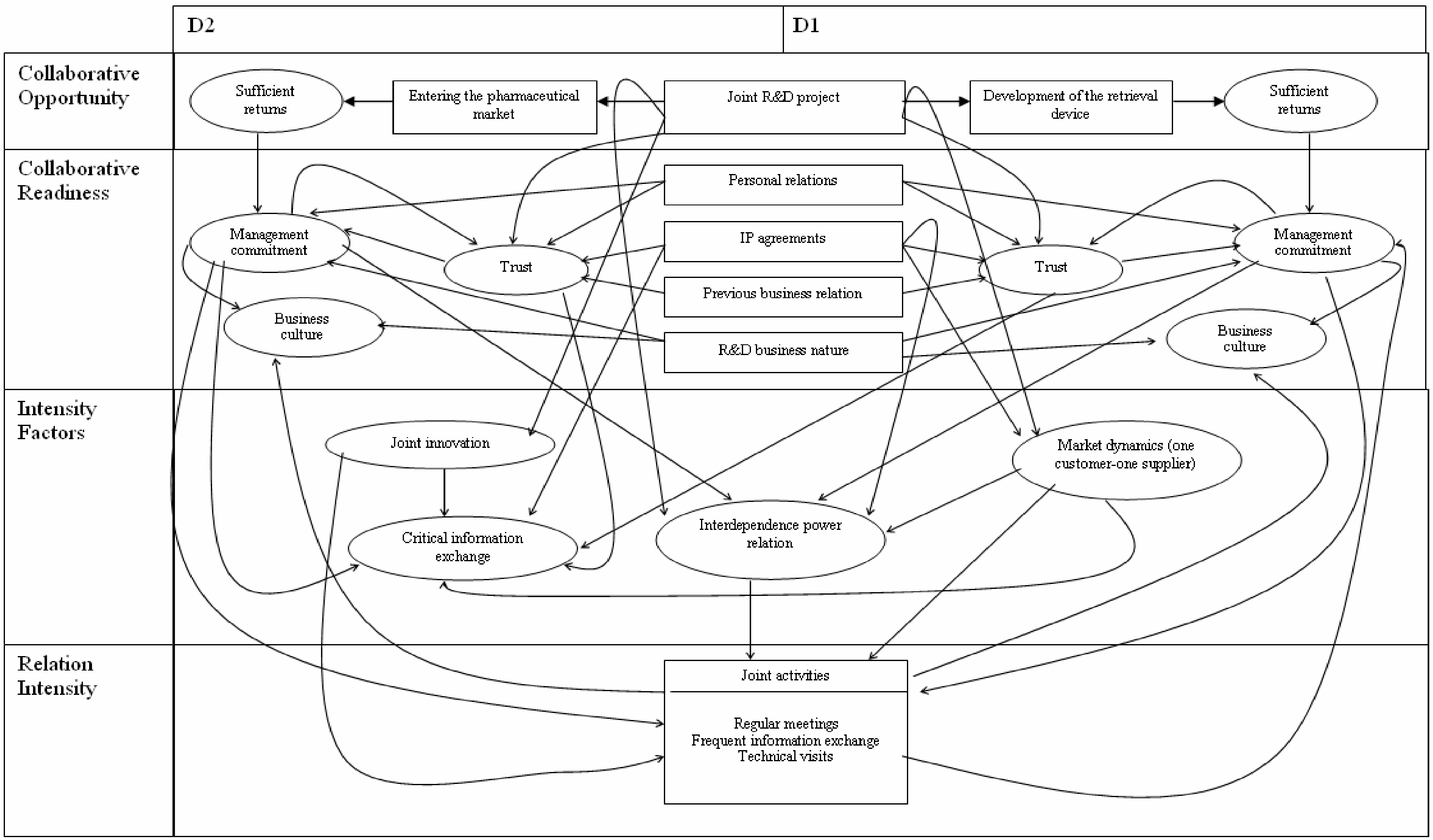


Figure 6-5-Conceptually ordered map (D1-D2)

6.4.5 Relation intensity

The relation between D1 and D2 could be identified as a successful collaborative business relation. Both sides identified the relation as open and they never suffered from absence/inadequate information exchange. Both sides identified that the relation produces quite acceptable results for them and that they usually receive the needed information at the right time. It should be noted that the jointly- developed retrieval device and the associated agreements played a considerable role in facilitating the exchange of information between the two partners.

Under the umbrella of this partnership, both companies undertake several collaborative activities and abandon others. The joint development venture for the retrieval device is the most important collaborative activity D1 and D2 undertake in their relationship. Besides, the joint training, technical expertise exchange and sharing future developmental plans, are other jointly-undertaken activities to boost this collaboration. On the other hand, it was noticed that there are no joint forecasts and joint promotions undertaken by both companies. It should be noted that any joint forecast will not improve its accuracy; each company is totally away from the other's market and they actually have no access to the market information of the other side. Although they identified the relation as broad and deep, they don't exploit any collaborative tool (VMI, CPFR, CRP) while managing their relation. The reason behind this is that D1 is manufacturing only one product, which makes any form of IT connection infeasible and that the infrastructure in both companies does not support such linkage. This is evidenced in the following quote:

"...I think there is little value in having IT linkage for only one product..."

D1 Operations Director

In addition, they currently do not have any jointly-developed measures or evaluation criteria for their relation. Although they both acknowledged the importance of measuring and assessing their relation, each partner prepares his own measures individually.

In general, the current collaborative intensity under the current levels of potentiality and intensity factors and their interrelations is quite sufficient and produces appropriate results for both sides. This is evidenced in the following quote:

"...yes, I am quite satisfied with our relation…it is a pretty good relation…I can not see much to change in our relation…"

D2 Continuous Improvement Manager

It could be identified that adding more effort (to intensify partners' interaction) under the current circumstances will not provide additional value. This result contradicts with Mouritsen et al (2003) hypothesis that the more the integration, the better the management of the chain and the better the results achieved. In addition, this result disagrees with Valsamakis and Groves (1996); Spekman et al (1998); Lee (2000); Simatupang and Sridharan (2005); Whipple and Russell (2007) and Duffy (2008) who highlighted the role of intensifying collaboration in reaching better business results.

6.4.6 Concluding remarks

The D1-D2 relation could be seen as a good example for successful collaborative relations. The desire of D1 to improve the retrieval mechanism of their medicine and the strategic orientation of D2 were the major impetus for D1-D2 collaboration; it created a good collaborative opportunity for both sides. The presence of top-management commitment, a trustful relation and supportive collaborative culture in the D1-D2 partnership created suitable collaborative grounds for their relation.

The management commitment and the associated activities, coupled with the current levels of trust and collaborative culture, reflects the partners' degree of readiness to collaborate. It could be identified that the opportunity to collaborate and the partners' readiness to exploit this opportunity put D1 and D2 in a position of being potential candidates for collaboration and reflects the degree of their collaborative potential. This extends the work of Bititci et al (2007) who developed the synergy model to identify partners' readiness to collaborate. The model identified strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) as essential factors that would increase the chances of success for future collaborative enterprises. This research adds to this work by highlighting some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success and the depth of partners' interaction.

The role of personal relationships over collaboration could not be ignored. The presence of a good personal relationship between D1 and D2 top management allowed for heightening trust and commitment; hence allowing for better grounds to have a close and collaborative relation.

The joint development of the retrieval device played a significant role in developing a close and collaborative business relation between the two partners. The effect of market dynamics over the power relation and the exchange of critical information (innovation) were evident. The fact that there is only a single source of supply (D2) and only a single customer for the retrieval device (D1) allowed them to develop an interdependence relation. Although power could be seen as skewed towards the D2 side, the effect of power differences is minimal over the relation. The strategic intention of D2 to enter the pharmaceutical market, the market dynamics and the joint development of the retrieval device played a significant role in creating an interdependence relation between the two sides.

The effect of market dynamics (one customer and one supplier) played a significant role in eradicating the effect of innovation over the partners' relation. Besides, the presence of quite acceptable levels of trust, non-disclosure, confidentiality and IP rights agreements helped in manipulating the effect of innovation over the relation and smoothing information flow between partners; hence allowing for better opportunities to intensify their relation.

It could be identified that the effect of power interdependence, market dynamics and innovation played a significant role in the partners' decision to intensify and deepen their interactions and collaboration; collaborative intensity. In addition, the interrelations between some of the potentiality factors and the intensity factors were evident. Table 6-7 highlights the interrelations between the different factors.

In general, we can say that in spite of the absence of joint forecasts and promotions, collaboration tools, joint measurement of the collaboration performance and IT linkage, business collaboration between the partners clearly exists. The relation between the two partners can be seen as quite productive. Both partners are quite satisfied with this level of cooperation and are not willing to do more, at least in the near future. The current intensity under the current circumstances is quite productive and quite suitable to produce acceptable business results for both sides.

	commitment	Culture	Trust	Power	Innovation	Market
Commitment	NA	Allowed the establishment of supportive collaborative culture in both companies.	Commitment from both sides nurtured trust in the relation.	Commitment to collaboration alleviates power differences between the two partners.	Commitment allowed partners to work collaboratively to develop the retrieval device. It allowed for smooth critical information exchange.	Not identified
Culture	Not identified	NA	Not identified	Not identified	The presence of a collaborative culture allowed partners to work collaboratively to produce an innovative product.	Not identified
Trust	Trust allowed for heightening partners' commitment	Not identified	NA	Not identified	Trust allowed for better opportunity for exchanging critical information.	Not identified
Power	Not identified	Not identified	Not identified	NA	Not identified	Not identified
Innovation	The presence of jointly developed innovation heightened the commitment from both sides.	The R&D nature of the two companies helped in establishing a collaborative culture in the two partners' organizations.	The development of joint innovation heightens trust between collaborating partners.	The possession of joint innovation provides the opportunity to disregard the effect of power over the relation and helped in building an inter-dependence relation between them.	NA	The presence of joint innovation created a market of one customer-one supplier; hence eradicating the effect of market competition over collaboration.
Market	The presence of one supplier and one customer increased the partners' commitment to intensify their collaboration.	Not identified	Not identified	The low market competition (one supplier-one customer) allows for an interdependence relation and eliminates any power difference.	The presence of one supplier and one customer allows partners to exchange critical information freely.	NA

Table 6-7-Interrelations table (D1-D2)

Each cell in the previous table represent the effect of the factors in first column on the factors in the first raw

It can be concluded that the current intensity of the relation could be seen as a factor of the intensity factors and their interrelations with the potentiality factors. The current intensity is appropriate contingent to the potentiality and intensity factors and their interrelations. It is important to note that more intensity in the relation requires changes in the potentiality or intensity factors levels. For example, to establish IT linkage may require changes in the market dynamics (more customers for the D2 retrieval device) or increasing the number of products produced by D1. Similarly, an increase in the D1 range of products may trigger better returns from collaboration; hence the willingness to have IT linkage between them may increase.

6.4.7 Key learning points:

The following table (table 6-8) aims to highlight the key learning points from this case study:

This case supports… • Sufficient returns trigger management commitment. • Sufficient returns are not restricted to financial returns and may extend to other benefits. • Personal relationships allow for improving partners' commitment to collaboration. • Commitment allows trust to nourish. In turn, trust allows for further commitment. • Commitment provides suitable grounds for the establishment of supportive collaborative culture. • As market competition decreases (one customer, one supplier), commitment to intensify the relation increases. • As market complexities increases (the absence of market competition; one customer, one supplier), the degree of dependency increases and the effect of power differences diminishes. • Commitment alleviates power difference between collaborating partners. • Trust improves the degree of openness in a relation; hence allowing for better opportunity to share critical information. • The presence of joint innovation created a market of one customer-one supplier; hence eradicating the effect of market competition over collaboration. • The possession of joint innovation provides the opportunity to disregard the effect of power over the relation and helped in building interdependence relation between them.
This case disagrees with… • The hypothesis that the more the integration, the better the management of the chain and the better the results achieved.
This case extends… Strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) are essential factors that would increase the chances of success for future collaborative enterprises. These factors do not suffice for collaboration to succeed. There are some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.
This case identifies … • The absence of market competition (one customer, one supplier) increases dependency; hence diminishes the fear of critical information being disclosed and allows partners to intensify their collaboration. • The presence of innovation at both sides (joint innovation) is associated with increase in commitment to collaboration as well as the willingness to intensify collaboration. • Commitment facilitates the exchange of critical information. • The R&D nature of the two companies helped in establishing a collaborative culture in the two partners' organizations. • The development of joint innovation heightens trust between collaborating partners.

• Sufficient returns provide a good opportunity for partners to undertake a collaborative venture. • The presence of commitment, trust and collaborative culture reflects partners' readiness to exploit collaborative opportunity. • Collaborative potential is the combination of collaborative opportunity and collaborative readiness. • Personal relationships play an active role in nurturing trust between collaborating partners. • Power relation, innovation (criticality of information) and market dynamics and their interrelations with the potentiality factors play a significant role in determining the degree of partners' interaction; collaborative intensity.

Table 6-8-Key learning points (D1-D2)

6.5 Case study E:

6.5.1 Overview:

Partner 1 (E1) and partner 2 (E2) are two companies operating in the pharmaceutical and packaging' markets consecutively. E1 and its business partner, E2, were selected to assess their dyadic relationship. The reason behind this selection is the close relation and the relatively long-standing history of business relation between the two companies.

E1, a wholly-owned subsidiary of a US based Biopharmaceutical Company develops proprietary products for the pharmaceutical market, based on its own, unique drug-delivery systems. The company produces one product that has been successfully developed, registered and launched around the world. They are producing a polymer drug-delivery technology (human birth induction system) that is capable of providing controlled release of a range of drug molecules over periods up to 24 hours.

E2, part of a leading packaging group, is a leading packaging manufacturer of folding cartons and patient information leaflets for the pharmaceutical and healthcare industries. The group is the UK's fastest-growing packaging manufacturer and producing printed cartons for customers in both the food and pharmaceutical industries. The group creates packaging for many well-known companies, brands and retailers. Key account clients across the group include GlaxoSmithKline, Northern Foods, Reckitt Benckiser, Greencore, Bakkavor, and leading supermarket chains.

E1, an SME operating in UK, is considered a high-tech company since its expenditure in innovation represents around 20% from its total annual sales. E2, a large company with around 500 employees operating in UK, is also considered a high-tech company. There is no fixed R&D budget in E2 as they usually work directly with customers in creating cartons and new ideas for packaging materials.

6.5.2 Nature and history of the relation:

E1 and E2 started their business relation 5 years ago when E1 added E2 to its approved suppliers list for packaging materials. This long history of business relation allowed both sides to develop and maintain a close but traditional customer-supplier relation. E2 is considered a key supplier to E1 as they are supplying 100% of E1 packaging materials. From the other side, E1 represents a small amount of E2 total sales; reaching around 1-2 %.

6.5.3 Potentiality to collaborate

The start-up of E1-E2 business relation was when E1 identified E2 as an approved supplier of their packaging material as a result of an audit of E2's operation. Generally, the relation between E1 and E2 could be classified as a traditional independent customer-supplier relationship. Yet both sides were able to build and maintain successful business relationship during their relation that extends over a period of 5 years. This is evidenced in the following:

"…it's a customer-supplier relation…the relation with E1 is close…we know them quite well…it is an on-going business supply…we do what they ask us to do…we supply them with good products on time and they pay the bills on time…"

E2 Key Account Manager

Despite the close relation, both sides lack the desire to turn this close relation into a collaborative venture. The main reason for this is the inability of both sides to realise benefits that are worth the effort and cost of collaboration. This could be substantiated in the following statement:

"…it's important to note that E1 is not a big customer…we are not turning a lot of business with them…"

E2 Key Account Manager

"…they are supplying a non-critical component… generally the service we receive is very good but we prefer to let the market dynamics determine the suitable supplier... "

E1 Operations Director

It could be identified that both sides are quite satisfied with the current relation performance and they both lack the desire to undertake any collaborative effort, at least for the time being. It could be seen that the absence of motives (in the form of insufficient potential returns from collaboration) for both sides and the inability to recognise any collaborative opportunity were the major reasons for partners mitigating undertaking any collaborative venture.

The absence of a collaborative opportunity led to uncommitted partners, or at least inadequate levels of commitment from both sides to collaborate. The previous successful business history between the two companies resulted in both sides only committed to keep a close but traditional customer-supplier business relation.

The relation between E1 and E2 is totally based on market dynamics (demand and supply conditions). In every single transaction, E2 determine their selling prices and notify E1; if E1 find the cost suitable, they accept and in turn E2 produces the order in accordance with the agreed cost. This is evidenced in the following:

"…we supply a product that we have to cost; if they accept the cost they send us a purchase order…"

E2 Key Account Manager

As a result of this traditional relation, E1 and E2 do not undertake any joint activities or any collaborative arrangements to manage the relation. From E1's point of view, the market is full of other packaging suppliers and they prefer to let market dynamics identify prices. From the E2 side, E1 represents a small proportion of their business which does not warrant undertaking any collaborative efforts.

Nevertheless, the relation between E1 and E2 could be identified as a trustful relation. The long-standing history that extends over a period of 5 years of successful business results allowed partners to build a trustful relation as well as building a close personal relationship. It should be noted that personal relationships helped in nurturing trust between the two sides. Both sides of the dyad highlighted the importance of personal relations for successful business relations. This is evidenced in the following:

"...you need good personal relations with suppliers to reach better business results…"

E1 Operations Director

The business culture in both companies could be identified as a supportive culture to collaborative efforts. The R&D nature of E1 helped in developing company-wide appreciation of the role of collaborative interactions in the success of developmental efforts. From the other side, the collaborative culture in E2 could also be classified as suitable for collaborative efforts to prosper. The close work with their customers in getting new designs for packaging helps them appreciate the role of collaboration in achieving better results. Yet the commitment from both sides did not reach a suitable level for partners to exploit this supportive culture for the sake of collaboration.

To conclude, it could be seen that the lack of motive, and the inability to find sufficient returns from collaboration, result in the absence of any opportunity for both sides from collaboration. In turn, the inability to identify benefits led to a lack of partners' commitment or, at least, inadequate levels of commitment to undertake collaboration. Although the relation is characterized by high levels of trust and both companies' culture could be seen as supportive to collaborative efforts, the lack of top-management commitment led to inability to exploit the two factors to undertake any collaborative arrangements. It could be seen that the lack of good opportunity from collaboration hindered partners' readiness to collaborate; hence leading to insufficient collaborative potential in E1-E2 business relation.

It should be noted that the relation between E1 and E2 is a non-collaborative relation, so assessing the effect of power, innovation and market dynamics over the relation will have no additional value. Consequently, drawing a conceptually ordered map of the relation will not be possible as well as being invaluable.

6.5.4 Concluding remarks

The relation between E1 and E2 could be identified as not collaborative; but a close customer-supplier business relation. Both sides identified that the relation produces quite acceptable results for them and that they usually receive the required information at the right time. In general, both sides do not undertake any collaborative or joint activities. This supports Barratt (2004) contention that some relationships may well be optimal in the sense that they are most suited to an arm's length, purely cost-based type of relationship, i.e. collaboration would not create any further added value or benefit.

The absence of sufficient returns from collaboration resulted in lack of motive for both companies to collaborate; hence leading to inappropriate collaborative opportunity for both sides. It should be noted that the absence of collaborative opportunity led to uninterested management in collaboration; hence inappropriate commitment and in turn inappropriate readiness for collaboration. Although the relation is characterized by high levels of trust and both companies' culture could be seen as supportive collaborative cultures, the absence of potential returns and top-management commitment led to inadequate collaborative potential of partners.

However, the role of personal relationships over business relations could not be ignored. Both sides identified that personal relations play a significant role in the success of their business relations.

6.5.5 Key learning points:

The following table (table 6-9) aims to highlight the key learning points from this case study:

This case supports… • The absence of sufficient returns hinders motives for collaboration. • The absence of potential returns hinders top-management commitment to collaboration. • As market competition increase, the desire to have collaborative relations diminishes.
This case disagrees with… • The hypothesis that the more the integration, the better the management of the chain and the better the results achieved.
This case identifies … • Personal relationships are essential for building trust in business relations. • Sufficient returns provide the opportunity for partners to undertake a collaborative venture. • The absence of collaborative opportunity results in the absence of partners' readiness to collaborate; hence insufficient collaborative potential. • Collaborative potential is the combination of collaborative opportunity and collaborative readiness.

Table 6-9-Key learning points (E1-E2)

6.6 Summary:

This chapter has dealt with a large amount of qualitative data gathered from five case studies investigated in this research. The chapter aimed at conducting within case analyses for the examined dyads. The analyses started with a narrative discussion for both sides of a dyad's point of view, followed by using conceptually ordered maps to depict the relations between the different factors that affect collaborative relations. Each case analysis end up with a table summarizing the key learning points from each case. The next chapter aims to conduct cross-case analysis to the examined cases in order to organize and make sense of this research data; hence allowing for the provision of answers to the research questions.

7. Empirical findings (cross–case analysis)

The systematic search for cross-case patterns is a key step in case research. It is essential for enhancing the generalizability of conclusions drawn from the cases. This chapter deals with cross-case analysis and the search for similar patterns across the examined cases. In this chapter, the researcher aims to explore where the multiple cases are diverging or converging as well as finding out under what sets of emerging themes collaborative relations are formed and maintained.

In order to achieve the above objective, the researcher will compare and contrast cases versus research questions and the conceptual framework developed via a review of the literature. The cross-case analysis will be guided by the research questions followed by comparing results across cases to provide explicit answers to the research questions. To answer RQ1 (RQ 1.1 and RQ 1.2) and RQ 2.1 and RQ 2.2, the researcher developed analysis table derived from the key learning points tables (Tables 6-2, 6-4, 6-6, 6-8 and 6-9) developed in chapter 6 to identify patterns across the examined cases. To answer RQ 2.3, the researcher developed a table, derived from the interrelations tables (Tables 6-1, 6-3, 6-5 and 6-7) developed in chapter 6, which provides a summary for the different interrelations between the factors.

The updated model presented at the end of this chapter resulted from the key learning points tables developed in chapter 6, summary interrelations table (to be addressed in this chapter) and the pattern analysis tables (to be addressed in this chapter). All the undertaken steps for analysis are depicted in figure 7-1.

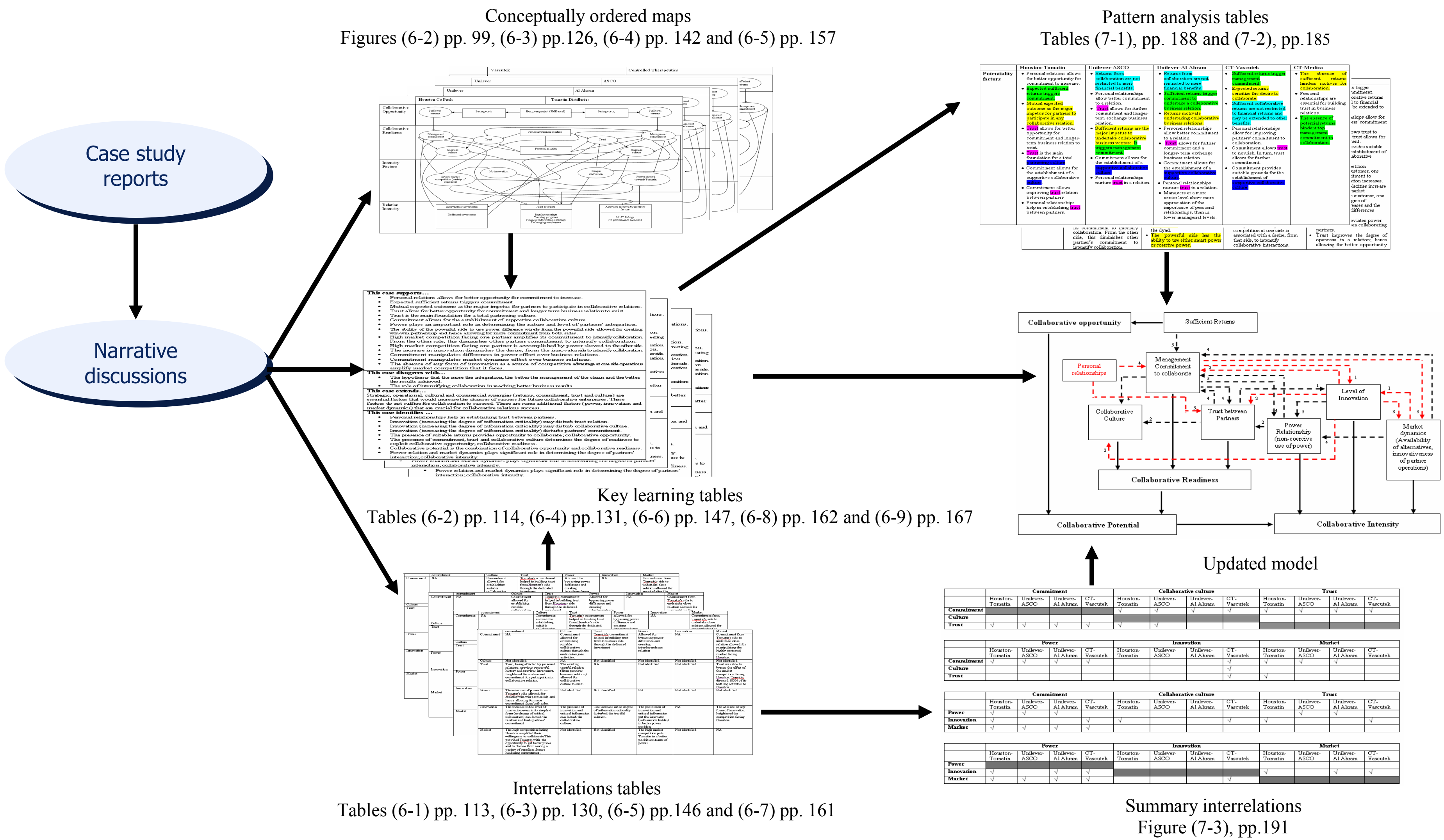


Figure 7-1-Analysis map

7.1 Answers to Research Question 1:

At the outset of this research, the researcher proposed the collaborative potential construct; a combination of collaborative opportunity, (i.e. potential benefits which partners will gain from collaboration) and collaborative readiness, (i.e. their preparedness to exploit that opportunity). The first research question in this research project aims to substantiate the validity of the collaborative potential construct as well as understanding the different factors that affect partners' potential to collaborate. Typically, the first research question in this research was:

> ***RQ1:*** *Is "collaborative potential" a valid construct? And if so, what are the factors that affect collaborative potential?*

Based on an in-depth literature review (chapter 3), the researcher was able to identify collaborative potential as a theoretically-valid construct. Besides, the literature identified that potential returns from a collaborative venture enlightened a good opportunity for better results, i.e. collaborative opportunity. A good opportunity triggers partners' desire to collaborate. Commitment, trust and collaborative culture could be identified as factors that affect partners' readiness to exploit that collaborative opportunity, i.e. collaborative readiness.

It was deemed essential to examine whether this construct is valid in practice or not, as well as identifiying the factors that affect partners' collaborative potential empirically. This extended the first research question into two new sub-questions:

> ***Research Questions:***
> ***RQ1.1****: Are these factors really true in practice?*
> ***RQ1.2****: Are there other factors that affect collaborative potential?*

The following table (Table 7-1) shows the pattern across cases regarding the factors that affect potentiality of partners to collaborate.

	A1-A2	B1-B2	C1-C2	D1-D2	E1-E2
Potentiality factors	• Personal relations allows for better opportunity for commitment to increase. • Expected sufficient returns triggers commitment. • Mutual expected outcome as the major impetus for partners to participate in any collaborative relation. • Trust allows for better opportunity for commitment and longer-term business relation to exist. • Trust is the main foundation for a total partnering culture. • Commitment allows for the establishment of a supportive collaborative culture. • Commitment allows improving trust relation between partners • Personal relationships help in establishing trust between partners.	• Returns from collaboration are not restricted to mere financial benefits. • Personal relationships allow better commitment to a relation. • Trust allows for further commitment and longer-term exchange business relation. • Sufficient returns are the major impetus to undertake collaborative business venture. It triggers management commitment. • Commitment allows for the establishment of a supportive collaborative culture. • Personal relationships nurture trust in a relation.	• Returns from collaboration are not restricted to mere financial benefits. • Sufficient returns trigger commitment to undertake a collaborative business relation. • Returns motivate undertaking collaborative business relations. • Personal relationships allow better commitment to a relation. • Trust allows for further commitment and a longer- term exchange business relation. • Commitment allows for the establishment of a supportive collaborative culture. • Personal relationships nurture trust in a relation. Managers at a more senior level show more appreciation of the importance of personal relationships, than in lower managerial levels.	• Sufficient returns trigger management commitment. • Expected returns sensitize the desire to collaborate. • Sufficient collaborative returns are not restricted to financial returns and may be extended to other benefits. • Personal relationships allow for improving partners' commitment to collaboration. • Commitment allows trust to nourish. In turn, trust allows for further commitment. • Commitment provides suitable grounds for the establishment of supportive collaborative culture.	• The absence of sufficient returns hinders motives for collaboration. • Personal relationships are essential for building trust in business relations. • The absence of potential returns hinders top management commitment to collaboration.

Table 7-1-Cross-case analysis to answer research question 1.1

Turquoise: patterns for sources of returns. Green: Patterns for management commitment Yellow: Patterns for returns Violet: Patterns for trust
Blue: Patterns for collaborative culture

The first step to answer these two questions entails the comparison between the relationship in two different dyadic relations; D1-D2 and E1-E2 (D1 and E1 refers to the same company). The aim behind this comparison is to highlight the differences between the two dyads. It was deemed valuable to compare the D1 (E1) collaborative relation with D2 versus the E1 (D1) non-collaborative relation with E2 to highlight the role of returns (collaborative opportunity) and commitment (collaborative readiness) in determining partners' collaborative potential (theoretical replication).

The main differences between the two dyads could be identified in the ability of partners to identify benefits from collaboration. It was noticed that in the D1-D2 business relation, both sides were able to identify benefits from collaboration (collaborative opportunity). The presence of potential returns from collaboration triggered management commitment from both sides to undertake a collaborative venture. In turn, the presence of trust and a collaborative culture, coupled with management commitment, resulted in partners being able to exploit the opportunity; collaborative readiness. It could be identified that the collaborative opportunity and readiness put the two partners in a position as potential collaborators. On the other hand, in the E1-E2 business relation, the absence of benefits from collaboration (inadequate collaborative opportunity) hinders the desire to collaborate. The absence of collaborative opportunity resulted in insufficient management commitment from both sides to collaborate. Although both sides referred to the trustful relation and the presence of culture that supports collaborative efforts, it could be identified that the absence of opportunity and management commitment made them with little value.

The previous comparison supports the argument that sufficient returns provide the opportunity for business partners to collaborate (yellow). In addition, the analysis also supports the assumed role that sufficient returns play in triggering management commitment to collaboration (green).

The second step for answering the questions, involves analyzing patterns in the other four dyads against the theoretical model to identify the effect of returns, commitment, trust and culture over collaborative relations. Through the analysis, it could be identified that there is a similar pattern across the four cases (literal replication). In all cases, the expected benefits and returns from collaboration were the major impetus for all dyads to undertake collaborative ventures (yellow). Three cases support the argument that returns are not restricted to mere financial returns and may extend to other returns (maintaining business relations, entering new market, etc) (turquoise). Generally, partners were able to identify benefits from collaboration in the four dyads; hence identifying collaborative opportunity.

The effect of potential returns over partners' commitment was another emergent pattern across the cases. In the four cases, top-management commitment was triggered as a result of the potential returns (green).

In addition, similar patterns were realized across the four cases regarding the effect of commitment, trust and collaborative culture over collaboration. It could be identified that the four examined dyads, although with varying degrees, are characterized by trusting each other with the presence of collaborative culture at both sides of the relation. Commitment, culture, and trust in the four cases could be identified as factors affecting the degree of readiness of partners to exploit the realized collaborative opportunity. The presence of collaborative opportunity (potential returns) and the collaborative readiness of partners (the presence of commitment, culture and trust) to utilize that opportunity, reflect high potentiality of partners (in each case) to undertake collaborative business relations; collaborative potential.

In addition, personal relations were another important pattern that occurs in all the examined cases, even in the non-collaborative relation between E1 and E2. It could be concluded that personal relations play a significant role in all business relations. In the four collaborative dyads, personal relations were identified as the motive for top management commitment and for nurturing trust between partners. In the E1-E2 business relation, personal relations could be identified as an important factor for nurturing trust for the sake of business relation continuity.

As a result, answer to the research question 1.1 would be as follows:

The collaborative potential construct is a valid construct in practice. The ability of partners to realise sufficient returns from collaboration provides a good collaborative opportunity. The presence of commitment, trust and collaborative culture allows partners to exploit that opportunity; collaborative readiness. Collaborative potential is the combination of collaborative opportunity and collaborative readiness.

Hence, the answer to research question 1.2 would be as follows:

Potential returns, commitment, trust and collaborative culture are the main factors that affect partners' potential to collaborate. In practice, personal relations could be seen as essential for business relations continuity. Personal relations provide a good opportunity to build trust in all business relations. It could be identified that personal relations provide better opportunity for commitment in collaborative business relations.

Consequently, the typical answer to the first research question would be:

Collaborative potential is a valid construct, both theoretically and in practice. Potential returns, commitment, collaborative culture and trust were identified, both theoretically and empirically, as the main factors affecting collaborative potential. Personal relations could be identified as an important factor which affects partners' commitment and trust in collaborative business relations.

7.2 Answers to Research Question 2:

In chapter two, the researcher proposed the collaborative intensity construct; the degree of partners' interaction in collaborative ventures. Hence, the second research question in this research aims to validate this construct as well as understanding the factors that affect the intensity of collaborative relations. The second research question is:

> ***RQ2:*** *Is "collaborative intensity" a valid construct? And if so, what are the factors that affect collaborative intensity?*

Based on an in-depth literature review (chapter 3), it could be identified that collaborative intensity is theoretically a valid construct providing an answer to the first part of the second research question. It could be identified that several studies highlighted the role of market dynamics over collaborative relations intensity. However, there is much debate among previous studies regarding the factors that affect the depth of collaborative relations; in specific power differences and innovation. Besides, there is scarcity in studies discussing the role of innovation over collaborative relations. Consequently, this research raises two additional sub-questions to understand the role of power differences and variation in innovation levels over collaborative relations:

> ***Research Questions:***
> ***RQ2.1:*** *What is the role that gap in power between partners plays in collaborative relations?*
> ***RQ2.2:*** *What is the role that difference in innovation levels between partners plays in collaborative relations?*

In order to answer these two research questions, it was deemed valuable to analyze the effect of power differences and variation in innovation levels across the four cases (literal replication) as shown in Table 7-2.

	A1-A2	B1-B2	C1-C2	D1-D2
This case supports…	• Personal relations allow for better opportunity for commitment to increase. • Expected sufficient returns trigger commitment. • Mutual expected outcome as the major impetus for partners to participate in any collaborative relation. • Trust allows for better opportunity for commitment and longer-term business relations to exist. • Trust is the main foundation for a total partnering culture. • Commitment allows for the establishment of supportive collaborative culture. • Power plays an important role in determining the nature and level of partners' integration. • The ability of the powerful side to use power difference wisely allowed for creating win-win partnership and hence allowing for more commitment from both sides. • High market competition facing one partner amplifies its commitment to intensify collaboration. From the other side, this diminishes other partner's commitment to intensify collaboration.	• Returns from collaboration are not restricted to mere financial benefits. • Personal relationships allow better commitment to a relation. • Trust allows for further commitment and longer-term exchange business relation. • Sufficient returns are the major impetus to undertake a collaborative business venture. It triggers management commitment. • Commitment allows for the establishment of a supportive collaborative culture. • Commitment allows improving trust relation between partners. • Power plays an important role in determining the nature and level of partners' integration. • Power is not static and fluctuates according to market conditions. • Using power wisely and building win-win relations is crucial for the continuity of collaboration. It heightens commitment at the other side of the dyad. • The powerful side has the ability to use either smart power or coercive power.	• Returns from collaboration are not restricted to mere financial benefits. • Sufficient returns trigger commitment to undertake a collaborative business relation. • Personal relationships allow better commitment to a relation. • Trust allows for further commitment and a longer-term exchange business relation. • Commitment allows for the establishment of supportive collaborative culture. • Power plays an important role in determining the nature and level of partners' integration. • Market dynamics (the presence of multiple sources of supply to C1) amplifies power differences in a relation. • The presence of high-market competition affects the level of partners' commitment to a relation. • The increase in dependency at one side motivates more commitment. • The presence of high market competition at one side is associated with a desire, from that side, to intensify collaborative interactions.	• Sufficient returns trigger management commitment. • Sufficient collaborative returns are not restricted to financial returns and may be extended to other benefits. • Personal relationships allow for improving partners' commitment to collaboration. • Commitment allows trust to nourish. In turn, trust allows for further commitment. • Commitment provides suitable grounds for the establishment of a supportive collaborative culture. • As market competition decreases (one customer, one supplier), commitment to intensify the relation increases. • As market complexities increase (the absence of market competition; one customer, one supplier), the degree of dependency increases and the effect of power differences diminishes. • Commitment alleviates power difference between collaborating partners. • Trust improves the degree of openness in a relation; hence allowing for better opportunity

	• High-market competition facing one partner is accomplished by power being skewed to the other side. • The increase in innovation (information criticality) diminishes the desire, from the innovator's side to intensify collaboration. • Commitment manipulates differences in the power effect over business relations. • The absence of any form of innovation at one side heightens power differences between partners. • The absence of any form of innovation as a source of competitive advantage on one side operations, amplifies the market competition that it faces.	• The absence of market competition facing one side of the dyad (supplier side) alleviates the effect of power difference at the other side (buyer side). Hence, market dynamics can act as mediating factors in manipulating a power differences' effect over collaborative relations. • The absence of market competition facing one side of a dyad is associated with diminishing its desire to intensify collaboration. • The absence of competition for one side of the dyad (supplier side) heightens commitment to collaborate at the other side (buyer side). • Commitment can act as a mediating factor in manipulating a power differences effect over collaborative relations.	• Commitment alleviates power differences effect. • Commitment alleviates market competition effect. • There is a difference between possession of power and the actual use of power in a relation. • Using power wisely and building win-win relations is crucial for the continuity of collaboration. It heightens commitment to the relations. • Using power wisely by the powerful side heightens trust at the other side of the dyad. • The absence of any form of innovation at one side heightens market competition that it faces.	to share critical information. • The presence of joint innovation created a market of one customer-one supplier; hence eradicating the effect of market competition over collaboration. • The possession of joint innovation provides the opportunity to disregard the effect of power over the relation and helped in building interdependence relation between them.
This case disagrees with…	• The hypothesis that the more the integration, the better the management of the chain and the better the results achieved. • The role of intensifying collaboration in reaching better business results.	• The hypothesis that the more the integration, the better the management of the chain and the better the results achieved. There is an appropriate-intensity contingent to the potentiality and intensity factors and their interrelations.	• The hypothesis that the more the integration, the better the management of the chain and the better the results achieved. There is an appropriate-intensity contingent to the potentiality and intensity factors and their interrelations.	• The hypothesis that the more the integration, the better the management of the chain and the better the results achieved.
This case extends…	• Strategic, operational, cultural and commercial synergies	• The powerful side (whether using power difference	• The fact that the powerful side (whether using power	• Strategic, operational, cultural and commercial synergies

	(returns, commitment, trust and culture) are essential factors that would increase the chances of success for future collaborative enterprises. These factors do not suffice for collaboration to succeed. There are some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.	coercively or non-coercively) has the ability to decide the degree of interaction and the depth of the relation and the time to intensify collaboration. • Strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) are essential factors that would increase the chances of success for future collaborative enterprises. These factors do not suffice for collaboration to succeed. There are some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.	difference coercively or non-coercively) has the ability to decide the degree of interaction and the depth of the relation and the time to intensify collaboration. • Strategic, operational, cultural and commercial synergies (returns, commitment, trust and culture) are essential factors that would increase the chances of success for future collaborative enterprises. These factors are not sufficient for collaboration to succeed. There are some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.	(returns, commitment, trust and culture) are essential factors that would increase the chances of success for future collaborative enterprises. These factors do not suffice for collaboration to succeed. There are some additional factors (power, innovation and market dynamics) that are crucial for collaborative relations success.
This case identifies …	• Personal relationships help in establishing trust between partners. • Innovation (increasing the degree of information criticality) may disturb trust relation. • Innovation (increasing the degree of information criticality) may disturb collaborative culture. • Innovation (increasing the degree of information criticality) disturbs partners' commitment. • Commitment manipulates	• Personal relationships nurture trust in a relation. • The presence of suitable returns provides good opportunity for partners to collaborate; collaborative opportunity. • The presence of commitment, trust and a collaborative culture determine the degree of readiness to exploit collaborative opportunity; collaborative readiness. • Collaborative potential is the combination of collaborative opportunity and collaborative readiness.	• Personal relationships nurture trust in a relation. • Managers at a more senior level show more appreciation of the importance of personal relationships than in lower managerial levels. • The presence of suitable returns provides good opportunity for partners to collaborate; collaborative opportunity. • The presence of commitment, trust and collaborative culture determines the degree of readiness to exploit collaborative opportunity;	• The absence of market competition (one customer, one supplier) increases dependency; hence diminishes the fear of disclosing critical information and allowing partners to intensify their collaboration. • The presence of innovation at both sides (joint innovation) is associated with increase in commitment to collaboration as well as the willingness to intensify collaboration. • Commitment facilitates the exchange of critical information. • The R&D nature of the two

	market dynamics effect over business relations. • The presence of suitable returns provides good opportunity for partners to collaborate; collaborative opportunity. • The presence of commitment, trust and a collaborative culture determine the degree of readiness to exploit collaborative opportunity; collaborative readiness. • Collaborative potential is the combination of collaborative opportunity and collaborative readiness. • Power relation, market dynamics, innovation and their interrelations with the potentiality factors play a significant role in determining the degree of partners' interaction; collaborative intensity..	• Power relation and market dynamics play significant roles in determining the degree of partners' interaction; collaborative intensity.	collaborative readiness. • Collaborative potential is the combination of collaborative opportunity and collaborative readiness. • Power relation and market dynamics play significant roles in determining the degree of partners' interaction; collaborative intensity.	companies helped to establish a collaborative culture in the two partners' organizations. • The development of joint innovation heightens trust between collaborating partners. • Sufficient returns provide good opportunity for partners to undertake collaborative venture. • The presence of commitment, trust and a collaborative culture reflect partners' readiness to exploit collaborative opportunity. • Collaborative potential is the combination of collaborative opportunity and collaborative readiness. • Personal relationships play an active role in nurturing trust between collaborating partners. • Power relation, innovation (criticality of information) and market dynamics plays a significant role in determining the degree of partners' interaction; collaborative intensity.

Table 7-2-Cross-case analysis to answer research questions 2.1 and 2.2

Yellow: identified patterns for the effect of power

Green: identified patterns for the effect of innovation

7.2.1 Power relation

In the cases investigated, three cases identified power as a major player in determining the nature and extent of collaboration. It was noticed that in the three cases, the weaker side highlighted the wise use of power difference from the powerful side to create a win-win business relation. It should be highlighted that two of the cases (the weaker side) differentiated between possessions of power and the actual use of power. Important patterns emerged in the two cases regarding the ability of the powerful side; whether using power coercively or non-coercively, in determining the degree of interaction and the depth of the relation and the time to intensify collaboration. Yet, they highlighted the importance of wise use of power as a major factor for collaborative ventures success. In addition, three of the investigated cases showed similar patterns regarding the effect of power over partners' commitment. It could be concluded that the wise use of power is associated with improving commitment in the weaker side; hence heightening motives for collaboration.

Hence the answer to question 2.1 would be:

Power differences play a considerable role in collaborative ventures' relations. The wise use of power from the powerful side allows for better commitment to collaboration; hence allowing for better opportunity for relation continuity.

7.2.2 Innovation and critical information exchange

Pattern searching in these cases revealed that two cases support the argument that the absence of any form of innovation at one side amplifies the market competition that this side faces. Besides, only one case supported the argument that the increase in innovation (information criticality) may disturb the potentiality of the partners' (commitment, trust and collaborative culture).

It should be highlighted that the effect of innovation over a collaborative relation shows a completely different pattern when the two partners jointly hold the responsibility of the innovation. In the case of D1-D2, the joint innovation between the two partners heightened trust and commitment as well as improving collaborative culture between the two partners. In addition, it allowed partners to discard power difference to create a complete interdependence relation as well as alleviating market competition.

Hence the answer to question 2.2 would be:

Innovation and critical information affects collaborative relations. The presence of innovation on one side may disturb the relation and the potentiality of the partners to collaborate. From the other side, joint innovation heightens trust, commitment and culture supportive to collaborative efforts.

7.3 Answers to Research Question 2.3:

The second part of the second research question in this research project aims to understand the factors that affect and determine the appropriate degree of interaction and intensity of collaboration in collaborative ventures. This extended the second research question into an additional question which is:

Research Questions:
RQ2.3: *What are the factors that affect and determine collaborative relations' appropriate intensity?*

It could be identified that the intensity of the relations within the four dyads differs from one dyad to another. From the maps (in the within-case section), it could be identified that the four dyadic relations revealed similar patterns regarding the effect of the intensity factors over the intensity of the relations. In addition, it could be identified that interrelations between the potentiality and intensity factors and their effect over collaborative intensity, was evident. The intensity factors considerably affect the potentiality factors leading to different degrees of interactions among the four dyads. Table 7-3 highlights the different interrelations among the potentiality and intensity factors:

	Commitment				Collaborative culture				Trust			
	A1-A2	B1-B2	C1-C2	D1-D2	A1-A2	B1-B2	C1-C2	D1-D2	A1-A2	B1-B2	C1-C2	D1-D2
Commitment					√	√	√	√	√	√	√	√
Culture												
Trust	√	√	√	√	√	√						

	Power				Innovation				Market			
	A1-A2	B1-B2	C1-C2	D1-D2	A1-A2	B1-B2	C1-C2	D1-D2	A1-A2	B1-B2	C1-C2	D1-D2
Commitment	√	√	√	√				√	√	√	√	
Culture								√				
Trust								√	√			

	Commitment				Collaborative culture				Trust			
	A1-A2	B1-B2	C1-C2	D1-D2	A1-A2	B1-B2	C1-C2	D1-D2	A1-A2	B1-B2	C1-C2	D1-D2
Power	√	√	√							√	√	
Innovation	√			√	√			√	√			√
Market	√	√	√	√								

	Power				Innovation				Market			
	A1-A2	B1-B2	C1-C2	D1-D2	A1-A2	B1-B2	C1-C2	D1-D2	A1-A2	B1-B2	C1-C2	D1-D2
Power												
Innovation	√		√	√					√		√	√
Market	√	√	√	√				√				

Table 7-3-Cross-case analysis to research question 2.3

The interrelations between the different factors are summarized in the previous table. Similar patterns across the four dyads were identified regarding the effect of trust over commitment, the effect of commitment over culture and power and the effect of market dynamics over commitment and power.

It could be identified that the presence of trust provides better opportunity for management to be committed to collaboration. The presence of management commitment provides suitable grounds for establishing supportive culture to collaborative efforts. Besides, the effect of commitment over power differences and managing the power relation could be detected in the form of the powerful side abandoning using power difference coercively which in turn heightens commitment at the weaker side.

The effect of market dynamics over commitment could be seen as having a dual effect over both sides of a dyad. When the market competition facing a supplier heightens, the commitment of the supplier to keep the relation intact heightens while the customer commitment, on the other side of the dyad, diminishes. Similarly, when the competition facing the supplier heightens, power differences increase.

In addition, similar patterns emerged across only three dyads regarding the reciprocal effect of commitment and power relation. It could be identified that partners' commitment alleviates the effect of power differences. On the other hand, the wise use of power difference (using non-coercive influences) plays a significant role in heightening partners' commitment.

To clarify the role of the intensity factors over the intensity of collaborative relations, it was deemed valuable to compare the relationship between two different dyads; B1-B2 and C1-C2. The main reason behind this comparison is to exploit the presence of the multinational company as a partner in the two dyads. This will allow highlighting the differences in intensities across the two dyads, as well as the different factors that affected this level of intensity.

In the within-case analysis, it was identified that the multinational company classified its suppliers into gold, silver and bronze, in accordance to the degree of dependency (power relation) with the suppliers and the market dynamics (supplier development initiative). In accordance with this classification, the multinational company determines the degree of interaction and the intensity of the relation with the suppliers. It should be noted that both the market dynaics and the degree of dependency (power relations) are the major determinants in identifying the degree of The multinational company interaction with suppliers. In addition, it should be highlighted that the market dynamics and the power relations played significant roles in determining partners' commitment, trust and collaborative culture which in turn affected the intensity of the relation.

It could be identified that B2 is facing quite smooth competition and there is a high degree of interdependency in the relation which in turn led to a high degree of interaction in the B1-B2 collaborative relation. This resulted in training programs, technical staff exchange, gap analysis, negotiable performance measures, regular meetings and IT connection. The C1-C2 collaborative relation shows a different picture in terms of the relation intensity. The main reason for this is the high competition facing C2 as well as the different interdependence relation between the two partners. C1 abandoned some joint activities (training, negotiability in identifying performance measures) in its relation with C2.

The effect of the power difference between the multinational company from one side and B2 and C2 from the other side could not be ignored. The multinational company was able to convince both companies to develop a cost model in which they explicitly identify their raw materials costs, conversion costs and logistics costs.

Hence the answer for this research question might be:

Power differences, market dynamics and innovation (critical information) play considerable roles in determining collaborative relations intensity. The interrelations between the intensity and potentiality factors play a significant role in manipulating the effect of each other. It could be identified that these factors resulted in different degrees of interactions in collaborative ventures.

Therefore the overall answer for the second research question might be:

Collaborative intensity showed to be a valid construct both theoretically and in-practice. Through empirical investigation, power relation, market dynamics and innovation were identified as factors affecting the degree of partners' interaction in collaborative ventures. The interrelations between the potentiality and intensity factors play a significant role in manipulating the effect of each other to determine the appropriate level of partners' interaction.

7.4 The developed model:

At the start-up of the research and after the literature review, this research proposed a conceptual model that draws the different factors and their interrelations that affect collaborative relations' potential and intensity. Throughout the empirical work, the model has developed (as shown in figure 7-2) and some relations were confirmed while others were developed.

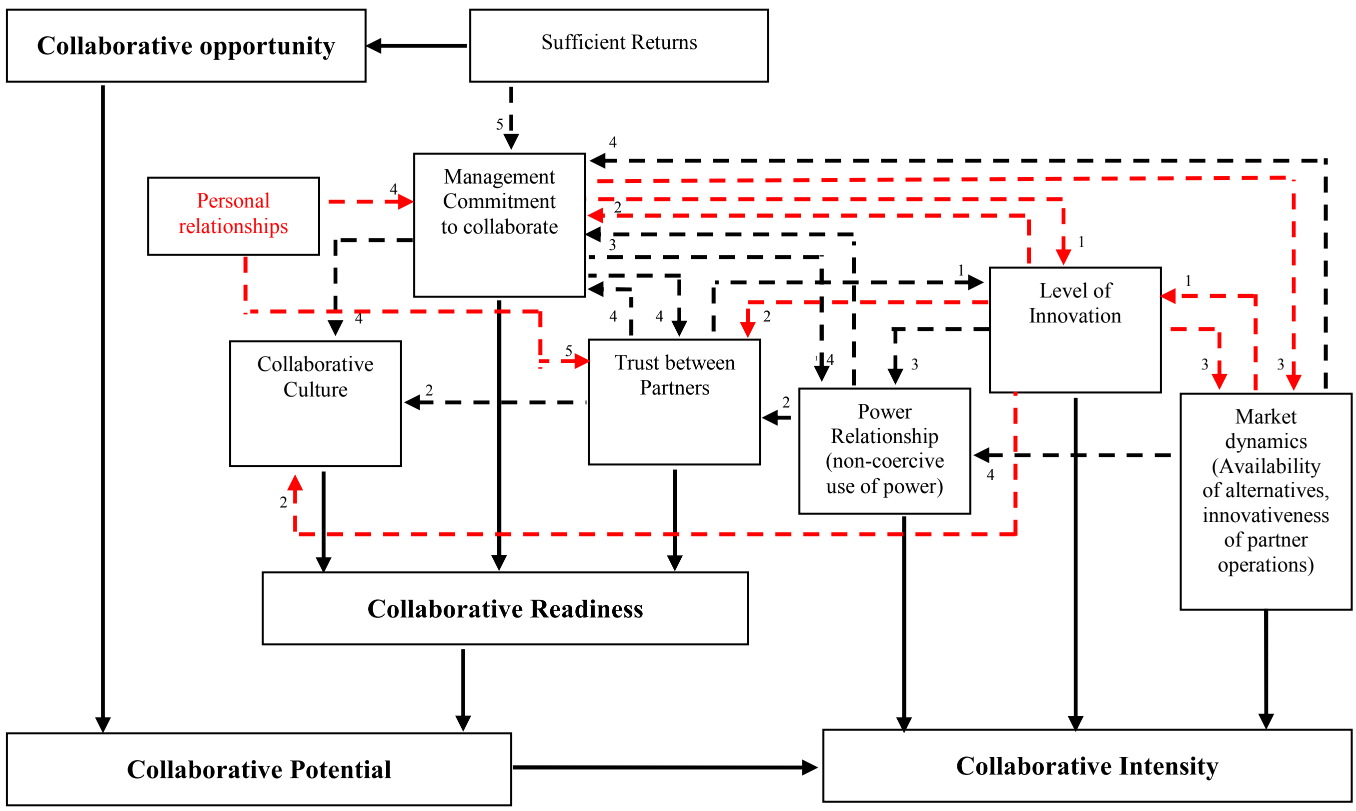


Figure 7-2-The Developed Model

Red arrows: new insights for the interrelations between the factors that were identified through the empirical investigation
Black arrows: the interrelations between the different factors that were identified through the literature review phase and were confirmed by this research.
Solid arrows: draws the relations between the factors and the constructs
Dotted arrows: draws the relations between the different factors
Numbers allocated to each arrow: numbers of cases that support the relation

The new developed model identifies the different relations between the potentiality and intensity factors and the effect over the potentiality of partners to collaborate, as well as the effect over the intensity of collaborative relations. The bold boxes represent the developed constructs; collaborative potential (opportunity and readiness) and collaborative intensity. The other boxes refer to the different factors that affect collaborative potential and collaborative intensity. The red arrows in the model refer to the relations identified by this research as affecting collaborative relations. The black arrows are the interrelations between the different factors that were identified through the literature review phase and were confirmed by this research. The numbers allocated to each arrow refer to the number of cases that support the relation.

It could be identified that returns and commitment are two central concepts to collaborative relations (to be discussed in greater details in the next chapter). The five examined dyads identified returns as the major driver for undertaking collaborative business relations. It could be identified that all the examined cases identified the importance of personal relations in building trust in any business relation. However, the four collaborative dyads highlighted the importance of personal relations in establishing commitment to collaborative efforts.

Commitment could be identified as an essential factor in collaborative relations formation. It plays a considerable role in establishing a collaborative culture as well as building trust in a collaborative venture. From the other side, the presence of trust in a relation could be identified as crucial for partners' commitment to collaborative inter-firm partnerships. It could also be highlighted that commitment plays a significant role in moderating the effect of market dynamics and differences in power in collaborative relations. In addition, it could be identified that the market dynamics and the power relation highly affect the extent of partner's commitment to collaborative efforts.

The relation between market dynamics, power relation and innovation was evident. It could be identified that the absence of any form of innovation heightens market competition in a relation. Besides, the presence of high market competition facing one partner is accomplished by power advantage to the other side of the dyad. The effect of innovation over power relation was evident. It could be identified that the presence/absence of innovation in one partner operation highly affects the power relation and the extent of influence that can be exerted in collaborative ventures. It was evident that the joint responsibility for innovation plays considerable role in alleviating power differences between partners and market dynamics effect over the relation. It also play significant role in establishing commitment, heightening trust as well as building a culture that acknowledge collaborative relations.

7.5 Summary:

This chapter aimed at conducting cross-case analysis and patterns matching across the examined cases. Commonalities across cases are presented in this chapter while providing detailed cross-case analysis tables. Also, the chapter provided clear and explicit answers to the research questions developed in chapters 2 and 3.

The next chapter aims to reach closure via discussing research findings and identifying contribution to theory and practice as well as evaluating the overall quality and validity of the research findings.

8. Discussion

With the previous chapter, the research objectives have been achieved by providing explicit and unambiguous answers to the research questions that led the research in the first place. Now the contributions and implications of the research need to be summarized. Also, research limitations, as well as identification of ideas for future research, will be presented.

8.1 Revisiting research objectives

The aim of this research was to explore new insights into collaborative business relations in supply chains. Today, organizations are operating in highly competitive environments that are brought about by globalizing trends, WTO regulations and scientific and technological developments in diverse fields. Different kinds of resources are scattered among different organizations, consequently companies need to restructure their strategies and strengthen their competitive advantage through collaboration.

Through reviewing the literature around collaboration in a supply chain context, there appears to be a consensus among previous studies that collaborative supply chain business model provides partners with the opportunity to reduce risks, costs, time to market, delivery time as well as improving asset-utilization, skills, knowledge and customer service. Despite different efforts by organizations to realize these benefits, evidence suggests that the likelihood of disappointing outputs in collaborative ventures is high (Vangen and Huxham, 2003). This highlights that our knowledge of collaborative relations is still limited and further insights are needed to motivate joint actions.

Previous studies identified some factors that are crucial for collaborative relations. These include sufficient returns (Cooper and Ellram, 1993 and Power, 2005), management commitment, trust, collaborative culture (Ellram, 1991 and Claassen et al, 2008) and market dynamics (Yih Wu et al, 2004). However, there seems to be much debate around the role of power differences over collaborative relations (Hausman and Johnston, 2009). Besides, there seems to be paucity in literature discussing the role of variation in innovation levels over collaborative relations (Mikkola and Larsen, 2006). Hence, this research intended to understand how collaborative relations are formed and how partners could determine the suitable level of their interactions as well.

To better understand collaborative relations, this research proposed two different constructs; collaborative potential and collaborative intensity. Collaborative potential is the combination of potential benefits which partners will get from collaboration, i.e. collaborative opportunity and their degree of preparedness to exploit that opportunity i.e. collaborative readiness. Collaborative intensity construct refers to the depth and degree of partners' interaction in collaborative ventures. Hence the research raised two main research questions:

> **RQ1:** Is "collaborative potential" a valid construct? And if so, what are the factors that affect collaborative potential?
>
> **RQ2:** Is "collaborative intensity" a valid construct? And if so, what are the factors that affect collaborative intensity?

Through in-depth literature review, informed by Tranfield et al (2003) concept of systematic literature review, around these two constructs, collaborative potential and collaborative intensity, showed to be theoretically valid. This, in turn, resulted in some additional questions:

> **RQ1.1:** Are the potentiality factors really true in practice?
>
> **RQ1.2:** Are there other factors that affect collaborative potential?
>
> **RQ2.1:** What is the role that gap in power between partners plays in collaborative relations?
>
> **RQ2.2:** What is the role that difference in innovation levels between partners plays in collaborative relations?
>
> **RQ2.3:** What are the factors that affect and determine collaborative relations appropriate intensity?

In addition, the research proposed a conceptual model that draws the interrelations between the different factors that affect collaborative potential and collaborative intensity as shown in Figure 8-1.

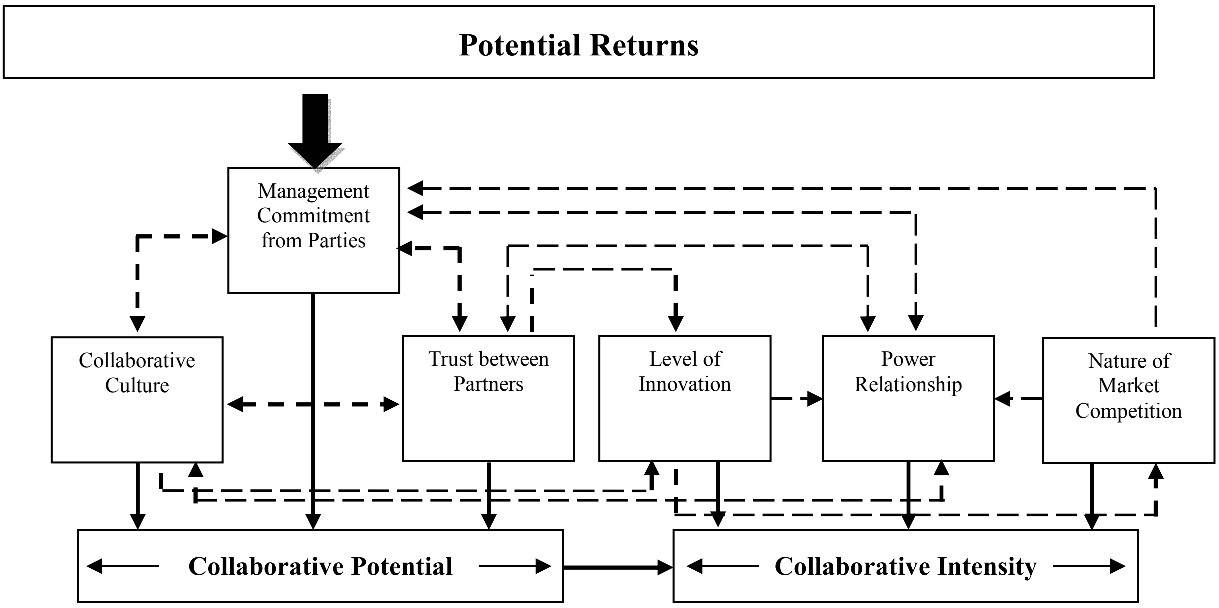


Figure 8-1-Conceptual Model for collaborative relations

It is worth noting that the researcher progressed through this research following the methodology outlined in chapters 4 and 5. Case study research was identified by the researcher as an appropriate strategy to tackle the research questions, validate the research constructs and test and further develop the model. The conceptual model, developed from the literature, guided the empirical work. Five case studies were selected according to pre-specified selection criteria to assess participants' dyadic business relations. A case study protocol was developed to ensure that the data would be collected in a repeatable and reliable manner. The protocol comprises an overview of the case project, the research unit of analysis, case study questions and a guide for the case study report.

Qualitative data was collected from the cases through interviews, documentation and direct observations for triangulation purposes. Data analysis comprised within-case and cross-case analysis. Within-case analysis started with narrative discussion that was contrasted against previous literature, followed by Miles and Huberman (1994) conceptually ordered maps and each case ended with a table summarizing key learning points from the case. Cross-case analysis aimed to build an explanation of patterns occurring across the cases.

By the end of the empirical work, the two research constructs showed to be valid and the conceptual model was modified in its final form as shown in Figure 8-2.

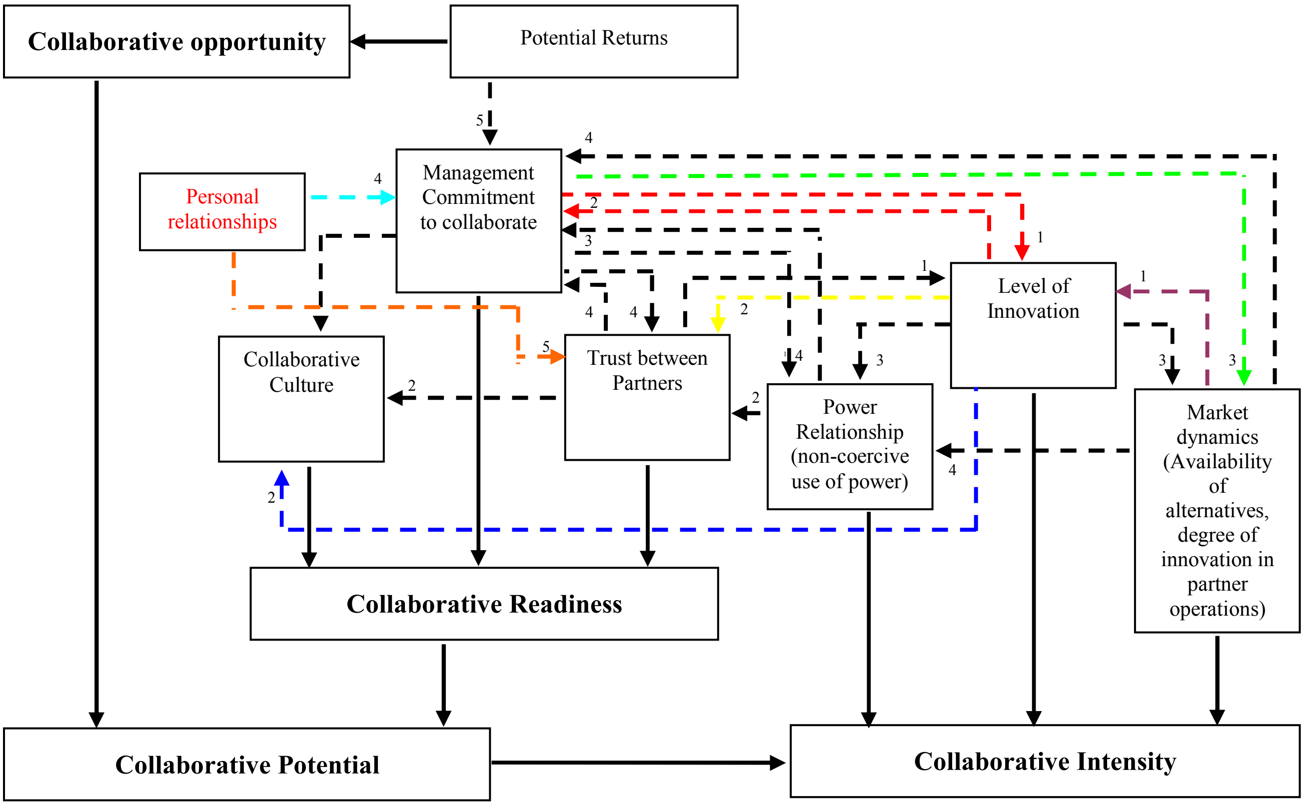


Figure 8-2-Developed Model for collaborative relations

Colored arrows: new insights for the interrelations between the factors that were identified through the empirical investigation
Black arrows: the interrelations between the different factors that were identified through the literature review phase and were confirmed by this research.
Solid arrows: draws the relations between the factors and the constructs
Dotted arrows: draws the relations between the different factors
Numbers allocated to each arrow: numbers of cases that support the relation

8.2 Assessing the research quality

The researcher believes that this research almost incorporates most of the quality aspects, as much as possible, that guaranteed the repeatability and validity of the research output.

So far, this research has taken the reader from the definition of the research problem to specific answers to the research questions raised earlier in the study. It is essential to critically assess this research in order to achieve a high research quality standard and to identify whether this research is valid or not. The research quality criteria for evaluating this research were discussed in Chapter 5. This section will discuss the assessment in more detail and this is summarized in Table 8.1

This research ensured research quality through following the different tactics identified by Yin (2003) to conduct rigorous case-study research (discussed earlier in chapter 5). Undertaking a review of the literature is an important part of any research project (Transfield et al, 2003). Eisenhardt et al (2007) identified that sound empirical research begins with strong grounding in related literature, identifies a research gap, and proposes research questions that address the gap. Hence, this research started with a careful review of collaboration literature in a supply-chain context and developed a conceptual framework through combining different studies and views. The literature review identified a gap via recognizing the high failure rates in collaborative ventures and the likelihood of abortion for collaborative business relations. The conceptual framework deduced from literature and research questions guide the field work providing solid grounds to look at collaborative relations and ensuring research quality from the start.

Then, the objective, throughout the research process, was to find reliable and valid answers to the research questions. However, how can the researcher ensure that the right research process will be carried out?

The rigor of a research study is demonstrated through a logical and rational research design (Yin, 2003; Easterby-Smith et al, 2008). Generally, four tests are applied to assess the quality of the research process. These are: construct validity, internal validity, external validity and reliability.

Research quality criteria	Description	Case study tactic	How was this achieved in the research?	Where addressed in the thesis?
Construct validity	The extent to which the researcher established correct operational measures for the concepts being studied	• Use multiple sources of evidence • Establish chain of evidence • Have key informants review draft case study reports	Selection of multiple data collection techniques, enfolding literature, establishing a chain of evidence, structure reporting. Conceptual framework that was developed from a concrete literature review provided better construct validity.	Chapters 2, 3, 6, 7
Internal validity	The extent to which the researcher can establish a causal relationship	• Do pattern matching • Do explanation building • Address rival explanations • Use logic models	This criterion is intended to explanatory and causal researches and not for exploratory studies. As this is an exploratory theory-building research, only pattern matching and explanation building was used to ensure the research internal validity.	Chapters 6, 7
External validity	The extent of generalizing study findings beyond the immediate case study.	• Use theory in single-case studies • Use replication logic in multiple-case studies.	Multiple case-study research design was employed using replication logic via five case studies. Four cases were selected to predict similar results and the fifth was selected to provide contrasting results for predictable reasons. The findings are more context-specific and may not be entirely generalizable. Multiple case studies used the same conceptual framework and pattern searching was carried out.	Chapters 5, 6, 7
Reliability	The extent to which a study operations can be repeated with the same results	• Use case-study protocol • Develop a case-study database	Early definition of research quality criteria, case study database, case study protocol, case study reports, cross-case analysis and pattern matching, enfolding literature and structured reporting are all aimed at enhancing the reliability of the research findings.	Chapters 5, 6, 7

Table 8-1-Evaluation of research quality criteria

8.3 Contribution to knowledge:

Contribution to knowledge refers to the novelty of research findings to further enhance scientific knowledge. The theoretical contribution of this study is outlined in the previous chapter by providing explicit answers to the research questions. The following table (Table 8-2) provides a summary of the research answers to the questions raised earlier in chapters 2 and 3.

Question No	Answers to the research questions
RQ1	Collaborative potential showed to be both theoretically and empirically valid. Literature review findings that identified potential returns, commitment, collaborative culture and trust as the main factors that affect partners' collaborative potential, were further supported empirically.
RQ1.1	Collaborative potential showed to be a valid construct in practice. Potential returns, commitment, collaborative culture and trust are the main factors that affect collaborative potential.
RQ1.2	In general, personal relations affect business relations. In collaborative ventures, personal relations allow for better trust and commitment.
RQ2	Collaborative intensity showed to be a valid construct both theoretically and in practice. Much debate among previous studies regarding the role of power and innovation over collaborative relations intensity.
RQ2.1	Power affects collaborative relations. The powerful side has better opportunity to direct the relation. The non-coercive use of power is essential for collaborative relations continuity.
RQ2.2	Innovation affects collaborative relations. The presence of innovation at one side may disturb the relation and the potentiality of the partners to collaborate.
RQ2.3	The interrelations between the potentiality and intensity factors are responsible for determining the appropriate level of collaborative relations' depth.

Table 8-2-Summary for the answers to the research questions

Answering the research questions provides new insights under four main headings; power and innovation, complex relationships between variables, research constructs and the model and personal relationships.

- *Power and innovation*

The first contribution of this research is about the role of power differences and variation in innovation levels over collaborative relations. Although vast literature discussed power differences in collaborative supply chains, there seems to be much debate among previous studies about how power affects collaborative relations. Some studies supported the argument that power imbalance has no place in close partnerships (Kumar, 2005; Hausman and Johnston, 2009) while other studies identified power as active player in close inter-firm business relations (Cooper et al, 1997; Nummela, 2003). This research supported the argument that power plays a significant role in collaborative relations. The examined cases provided interesting insights regarding the role of power and how it affects collaborative relations.

Power plays a considerable role in determining the nature and level of partners' integration. The powerful side demonstrated considerable ability to direct the relation and to identify what to collaborate over and what not. It could be identified that power could manifest itself in either a coercive or non-coercive form in business relations. All examined cases showed that the powerful side created win-win relations with the other side of the dyad. The success or failure of collaborative relations is dependent on the ability of the powerful side to create a win-win partnership. Hence, wise use of power differences is recommended for collaborative relations continuity, while using power coercively aborts collaborative efforts.

In addition, innovation showed to be a major factor in collaborative ventures. It should be highlighted that there is a scarcity in studies discussing the effect of innovation over collaborative relations (Mikkola and Larsen, 2006). However, this research proves that innovation plays a considerable role in determining the level of integration in collaborative relations. The increase in innovation in one partner’s operations is associated with diminished desire to have closer relations. Besides, the absence of innovation in one partner's operation is associated with increasing the desire to collaborate. Joint innovations are seen as providing better opportunity to keep collaborative relations intact and may trigger partners’ desire to intensify their interaction.

- *Complex relationships between variables:*

The second contribution of this research stems from the confirmed and new insights of the complex relationships between the different factors that affect collaborative relations. It is identified that these factors are highly interrelated and can affect each other positively or negatively.

This research confirmed previous studies’ results regarding the interrelations between some of the potentiality and intensity factors (presented in black arrows). It was confirmed that management commitment nurtures trust and leads to the establishment of a collaborative culture. Besides, trust was identified as crucial for establishing commitment to collaborative relations. Power and commitment relation was confirmed as well. It could be identified that when commitment increases, the tendency to use power differences coercively diminishes. At the same time, the wise use of power differences is associated with an increase in management commitment. Besides, this research confirmed the relation between commitment and market dynamics. The presence of multiple alternatives for a partner diminishes the commitment to collaborate and vice versa.

The research also confirmed the argument that the presence of trust in a relation helps the establishment of a collaborative culture. Trust leads to better opportunity for exchanging critical information between dyads, highlighting the effect of trust over innovation. The results also demonstrate that the wise use of power differences between partners increases trust. The relation between power from one side and market dynamics and innovation from the other side was evident. The presence/absence of innovation at one side of operations is usually associated by an increase in power difference between partners. Innovation on one partner's side provides the innovator with a competitive advantage which puts the innovator in a better position in terms of power. It is also identified that the power relation is affected by market dynamics. The presence of several alternatives diminishes the effect of power in a dyad. Finally, the results support the effect of innovation over market dynamics. The absence of any form of innovation at one side of a dyad results in heightening the market competition facing that partner, while the presence of joint innovation eradicates any effect for market competition over the relation between partners.

In addition, this research provided new insights in terms of the effect of the factors over each other and over collaborative relations. It could be identified that returns and commitment are two central concepts in collaborative relations. In figure 8-2, it could be seen that management commitment has a lot of arrows coming into and going out from it, so we can identify it as a fairly central concept. However, we could see sufficient returns as a fundamental concept as well since nothing influences it but it influences management commitment. Besides, the research results identified that potential returns is the first motive for collaborative relations as it triggers management commitment. Once commitment is realized, other factors start affecting collaborative relations.

The relation between commitment and innovation could be substantiated. The increase in innovation levels in one partner's operation diminishes commitment to collaboration, while the presence of joint innovation improves commitment for both sides of a dyad. It was also evident that the presence of well-established commitment in a dyad facilitates collaborative work and allows the smooth exchange of critical and innovative information (see red arrows in the new model). Besides, the research results indicated that management commitment alleviates the effect of market over the relation (see green arrows in the new model).

This research identified that the presence of joint efforts to innovate, facilitated the establishment of a collaborative culture (see blue arrows in the new model) as well as heightening trust in collaborative ventures (see yellow arrows in the new model). The increase in information criticality and innovation at only one side of a dyad disturb trust and collaborative culture in collaborative relations.

Besides, the relation between innovation and market dynamics was identified (See violet arrow in the new model). It was clearly demonstrated that the absence of market alternatives facilitates the exchange of critical and innovative information.

- *Research constructs and the model*

This research contributes to knowledge by identifying two new valid constructs; collaborative potential and collaborative intensity. The constructs aim to distinguish between the potentiality of partners to collaborate and the actual degree of their collaboration. Collaborative potential construct is the combination of collaborative opportunity (expected gains which partners will get from collaboration) and collaborative readiness (the degree of partners' preparedness to reap collaborative gains). It comprises returns, commitment, collaborative culture and trust as its main constituents. This research proves that sufficient returns is the major driver for dyads (the research unit of analysis) to undertake collaborative business relations. Sufficient expected returns (financial or non-financial) motivate management to be committed to collaborative work. Once sufficient benefits are substantiated, the presence of commitment, trust and collaborative culture provides the suitable grounds for collaborative efforts to exist.

In addition, collaborative intensity showed to be a valid construct. Power differences, innovation and market dynamics play a significant role in determining the degree and extent of collaborative relations.

Besides, the research identifies that the potentiality factors and the intensity factors are highly interrelated. The final model shows the interrelations between the potentiality and intensity factors in relation to collaborative potential and intensity. Collaborative relations vary in intensity from high to low in accordance with the intensity factors and their interrelations with the potentiality factors.

- *Personal relationships*

Finally, this research identifies personal relations as an essential ingredient in all business relations. All examined cases (even the non-collaborative relation) identified that personal relations is essential for building trust in business relations (see orange in the new model). In addition, collaborative firms identified personal relations as crucial for establishing top-management commitment to undertake a close and collaborative business relation (see turquoise in the new model). It should be highlighted that managers, at a more senior level, show more appreciation to the role of personal relationships than in lower managerial levels.

Figure 8-3 provides a one-page summary for the research contributions.

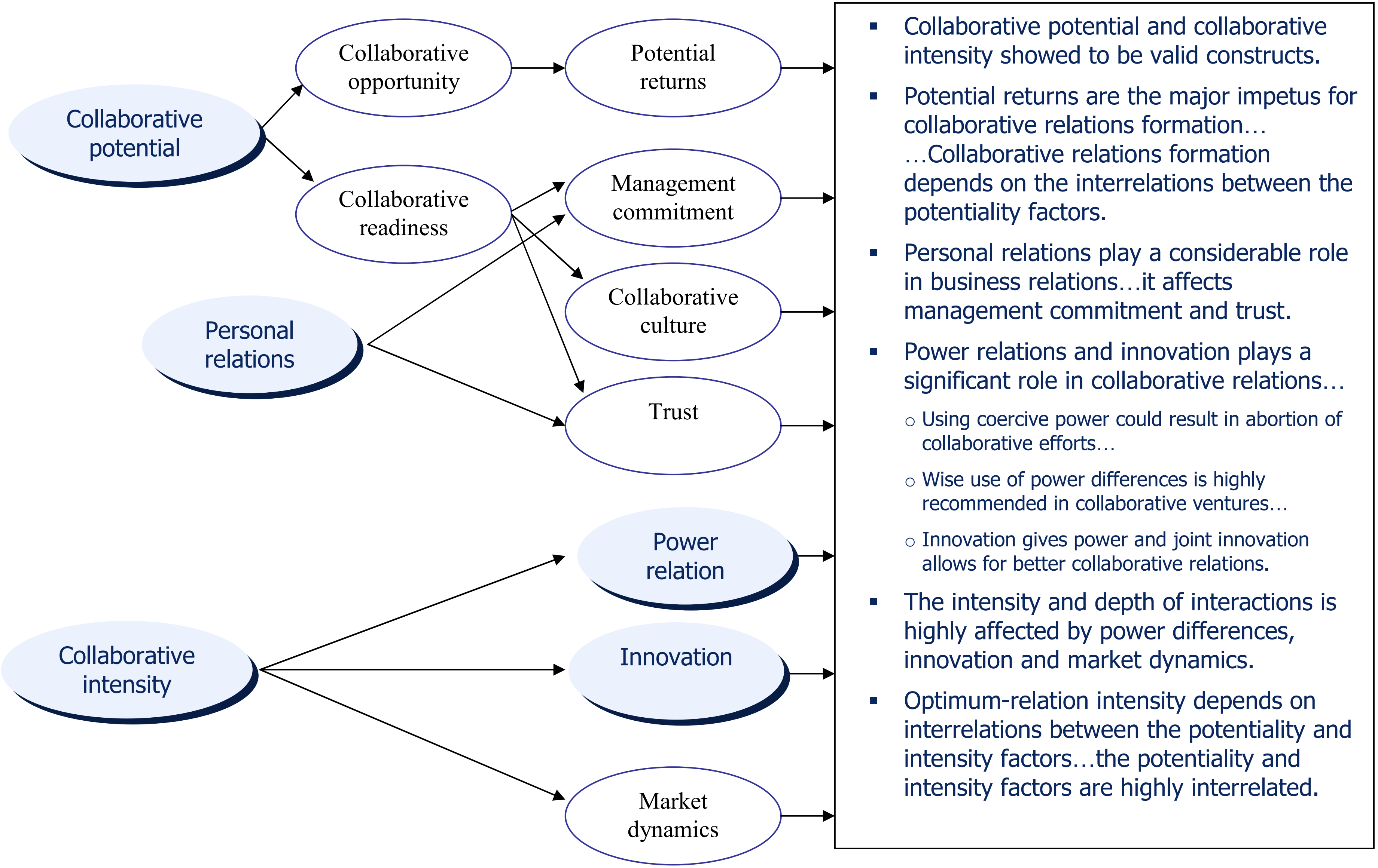


Figure 8-3-Summary for research contributions

8.4 Research limitations

There is always a limit to what a researcher can realize during a research study. The researcher's awareness of the limitations of a study strengthens the validity of the findings and the robustness of the research process. The limitations of this work are related to research results and research methodology.

The research findings are based on five case studies which might limit the ability to generalize the research findings. However this research identified powerful context specific insights and dimensions of collaborative relations in supply chains. The researcher tried to treat data objectively, as much as possible, through data triangulation and applying saturation principles to avoid idiosyncratic interpretations.

When it comes to the number of cases, there should be an offset between the number of cases to include and the willingness to achieve depth. In turn, it is crucial to be aware of the extent of generalizability which the researcher aims to reach. This research is not intended to statistically generalize across different dyads, rather it intends to build a framework to shed light over collaborative relations and provide better opportunity for relations success and prosperity. Hence, it becomes important to understand collaborative relations within an organizational context. Consequently, trying to examine different relations in-depth can provide valuable insights into different collaborative relations. The limited number of examined cases provided the opportunity to dig deeply into each of them. At the same time, looking into dyads with different products provided variation in the empirical material and enhanced the possibilities for understanding across the examined cases and across different organizations. It could be identified that the different cases revealed useful insights into the dynamics of collaborative relations that can be theoretically generalized beyond the context of the study.

Subjectivity is a key ingredient of qualitative research, so it should not be considered as a limitation. In qualitative studies the researcher needs to minimize the bias from his observations and final conclusions to ensure the validity of the research. The researcher believes that the results and findings are, to a great extent, objective as much as possible. The careful design of the research process ensured that the required steps and tactics, to minimize bias, were adopted. To avoid subjectivity in data interpretations, the researcher designed a case study review protocol, writing case study reports following the same format, triangulating data from multiple sources (face to face interviews, interview recordings, documentation, desk research and direct observations), using systematic approach to data analysis following Miles and Huberman (1994) conceptually-ordered maps and pattern-matching technique across the examined cases.

Time constraint is present in almost all research projects. Similar to other researches, this thesis had to be completed in the time period required for doctoral submission. Consequently, one of the main methodological limitations in this research is the discard for longitudinal studies design. The use of longitudinal design would help in better understanding the progress of collaborative relations and the progression in relations intensities over time. Yet, case study design provided the opportunity, to some extent, to examine collaborative relations retrospectively; despite this, it was not possible to assess collaborative relations after a longer-time horizon.

Another limitation to this research is related to the nature of examined dyads. All examined dyads are manufacturing companies and represent supplier-manufacturer dyadic relations. This may limit the potential for generalizing the results beyond manufacturing dyads because one might argue that having only manufacturing dyads is not enough to justify the applicability of the results within other dyads. However, the careful selection of case study dyads and the employment of the replication logic should counteract this criticism.

8.5 Theoretical implications and opportunities for future research

The findings of this research could be identified as supportive, contradictory or extending previous studies in collaborative supply chains. The researcher believes that this research provides new insights into collaborative supply chain literature. Although previous studies provide much debate about the role of power in collaborative ventures, this research identifies that power is an active player in collaborative relations. Besides, this research provides new insights over the role of innovation in collaborative relations. There seems to be lack in researches discussing the role of innovation over collaborative relations.

The identified complex relations between the different variables and their effect over the intensity of collaborative relations provide valuable insights in inter-firm business relations. Hence this research identifies some potential opportunities for future research.

It may be valuable to conduct longitudinal research, to assess collaborative relations and how they progress over time. The examined dyads in this research have started their collaborative ventures recently. Undertaking longitudinal studies will help in understanding how partners adapt themselves over time and the dynamics of the different factors to reach appropriate levels of interactions.

Another opportunity for future research would be undertaking action research for a certain dyad. This would provide a valuable opportunity to start a collaborative venture from the very beginning. Action research is becoming a relevant and valuable research strategy because it enhances the understanding of the research problem and provides an effective solution while working closely with the case companies. It will allow the researcher to understand the progress of collaborative relations over time, how the factors progress and their direct effects over each other and over the relation.

Previous literature includes some propositions around the interrelations between the different factors (which can be seen in the conceptual model developed from the literature). This research has also developed some additional propositions (which can be seen in the new model) in which all these propositions could be examined through large quantitative research. The following points summarize some propositions in terms of the effect of the factors over each other and over collaborative relations that were identified by this research:

- The increase in innovation levels in one partner's operation could diminish commitment to collaboration
- The presence of joint innovation could improve commitment for both sides of a dyad.
- Management commitment might alleviate the effect of market competition over the relation.
- The absence of market alternatives might facilitate the exchange of critical and innovative information.

- The presence of joint efforts to innovate might increase trust in collaborative ventures and may facilitate the establishment of collaborative culture.
- The increase in information criticality and innovation at only one side of a dyad may disturb trust and collaborative culture in collaborative relations.
- Personal relations may facilitate establishing top-management commitment and trust to undertake a close and collaborative business relation.

8.6 Practical implications

Although the purpose of this thesis has not been to arrive at normative suggestions for practitioners, it provides useful insights for firms wishing to undertake collaborative business relations. The following will summarize a few issues, highlighted by this study, which can be fruitful for practitioners to consider.

- *Optimum levels of relations intensity:*

One of the outputs of this research is the rejection and disagreement with the hypothesis that the more the integration the better results in collaborative supply-chain relations. Empirical investigation showed that collaborative relations vary in intensity according to the actual needs of the partners. Practitioners should bear in mind that there are appropriate levels of collaborative relations dependent on the interrelations between the potentiality and intensity factors. This provides practical advice to practitioners that intensifying collaborative relations is conditional and depends on the actual benefits partners will gain from collaboration as well as the effect of the different factors. Companies should be aware that intensifying their interactions necessitates changes in the interrelations of the potentiality and intensity factors otherwise, collaborative efforts will be worthless.

- *Intensity factors effect:*

As previously identified, intensity factors refer to the power relation, market dynamics and innovation. It should be noted that this research highlights the importance of using power differences wisely and recommends that the powerful side should create a win-win relation for collaborative relations to prosper. Practitioners should be aware that without the ability to demonstrate collaborative benefits, collaborative relations will not succeed. The powerful side should keep in mind that power fluctuates according to the market dynamics and over time. The best combination for collaborative relations is to realize mutual benefits for both collaborating sides.

8.7 Personal reflections

Throughout approximately three years working on this thesis, I could refer to this journey as challenging, stimulating and interesting. At the beginning of this research, I thought that I was starting hard and tough work with little joy. Shortly the hard work turned to curiosity and the tough work turned to delight and pleasure. The engagement in a continuous process of learning and probing new knowledge was really joyful. It keeps the mind open, broadens thoughts and allows for new experience. In addition, being an overseas student allowed exposure to a new school of thought, new culture and new experience. Generally, I can admit that I enjoyed my PhD study.

I could safely say that I do not regret many things about my research project. I believe that I have gained much additional experience from both an academic and practical perspective.

During the research project, some personal observations emerged which may be based on personal feelings rather than objective measures. I could say that collaborative relations seem to be an interesting topic for managers. However, it seems that national cultures are essential for shaping managers' acknowledgment to the spirit of cooperation in all relations. During the entire research, interviews were conducted with Egyptian companies, multinational organization (based in Egypt), Saudi Arabian company and some companies based in the UK. I could say that differences in cultures within the interviewed companies are not only a matter of internal organization culture rather it is a matter of an overall culture (national culture). It could be said that the degree of appreciation to the role of others differs from a company to another; from Arabian culture to European culture and even from Egyptian culture to Saudi Arabian culture. I would say that an overall national acknowledgment of cooperative behavior, recognition to the role of others in success, teamwork spirit are all shaped in accordance to the overall national culture. If true, it should be acknowledged that the overall culture even implicitly, whatsoever the organizational culture, will influence both the potentiality and intensity factors in collaborative relations.

What I would have done differently if I were to redo this work is to select action research as my research strategy. This is not to say that I regret using case-study design, but to say that I am interested in action research. The fact that I conducted my research and already learned a lot about case research, explored my desire to apply action strategy as well. Case research led to much appreciation for practical work, for having close contact with practitioners and seeing the holistic image of business relations. Action research, as a research strategy, engages the researcher in close contact with industry as well as the ability to intervene within industrial practices, which would be quite interesting for a researcher; especially those working in management consultancy. In general, the opportunity to have an in-depth view of practical cases to study certain phenomena provides good opportunity for enhancing the understanding of industry problems and allows for drawing results based on real-world data.

From the experience gained during this research, the researcher encourages the use of case-study research as a key research strategy in operations research because it provides a more holistic and pertinent solution to each particular problem.

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APPENDICES

Appendix I: Glossary of terms mentioned in the final model:

It is important to clarify all the terms used in the developed model, so the reader is clear about what is meant by each term. For this reason, the following table provides these definitions:

Term	Definition
Collaborative potential	The combination of collaborative opportunity and collaborative readiness.
Collaborative opportunity	The potential benefits partners will gain from collaboration.
Collaborative readiness	The degree of preparedness of partners to exploit a collaborative opportunity.
Collaborative intensity	The degree of actual interaction between partners in collaborative ventures.
Potential returns	The mutual expected outcome for partners from undertaking collaborative business relations.
Management commitment	The willingness of partners and the undertaken actions to pursue collaborative relations and the intentions to develop a long-term business relation.
Collaborative culture	The organizational behavior and attitudes that support collaborative work.
Trust	The extent to which supply chain partners perceive each other as credible and benevolent and the belief that the partner will perform actions that will result in positive outcomes for the firm and not to take unexpected actions that may result in negative outcomes.
Power relation	The ability to control one's own/another entity's range of intended or actual actions, depending on the nature of power asymmetry and through exploiting different influence strategies. It is recommended that managing collaborative relations successfully requires employing influence tactics that deepen interdependence and do not damage the relation.
Innovation	The technical prowess acquired through the specialist technical knowledge and application of technology at one partner side in a relation. It may also take the form of possession of critical information or the joint efforts between partners to reach new ideas, products or methods.
Market dynamics	The degree of market uncertainty, supply and demand conditions, few alternatives of reliable partners, ease of switch between partners and cost of switch from one partner to another.
Personal relations	The social bonds between individuals in collaborating firms.

Appendix II

PhD Research Thesis

An Exploratory Study for Collaborative Relations in supply chains

Case Study Protocol

Overview

This research focuses on collaborative relationships within supply chains with a hybrid of relationships to be examined. Earlier studies identified top management commitment, business culture, trust and nature of market competition as essential platform for collaborative ventures to succeed. Much debate appears among previous studies regarding the role of power differences and innovation over collaborative relations.

This research argues that power differences and variation in innovation levels, between partners, plays a significant role in shaping collaborative relations and determining the level of collaboration between business partners. Ignoring these two factors may cause the abortion of any collaborative initiatives. The research contends that all these factors are related and interrelated; affecting each other and sometimes manipulating the effect of each other.

This research aims to understand dyadic relations in supply chains and the factors, and their interrelations, which affect collaborative relations. The research also aims to identify the role that the gap in power and innovation plays in collaborative supply chains. Besides, the research aims to understand the appropriate collaboration level (collaborative intensity) between business partners (under the effect of the different factors) within different power regimes and contexts.

The conceptual framework (Figure 1) developed in literature review chapter, drawing the relations between the different factors that affect collaborative potential and collaborative intensity and their interrelations, will guide the data collection process.

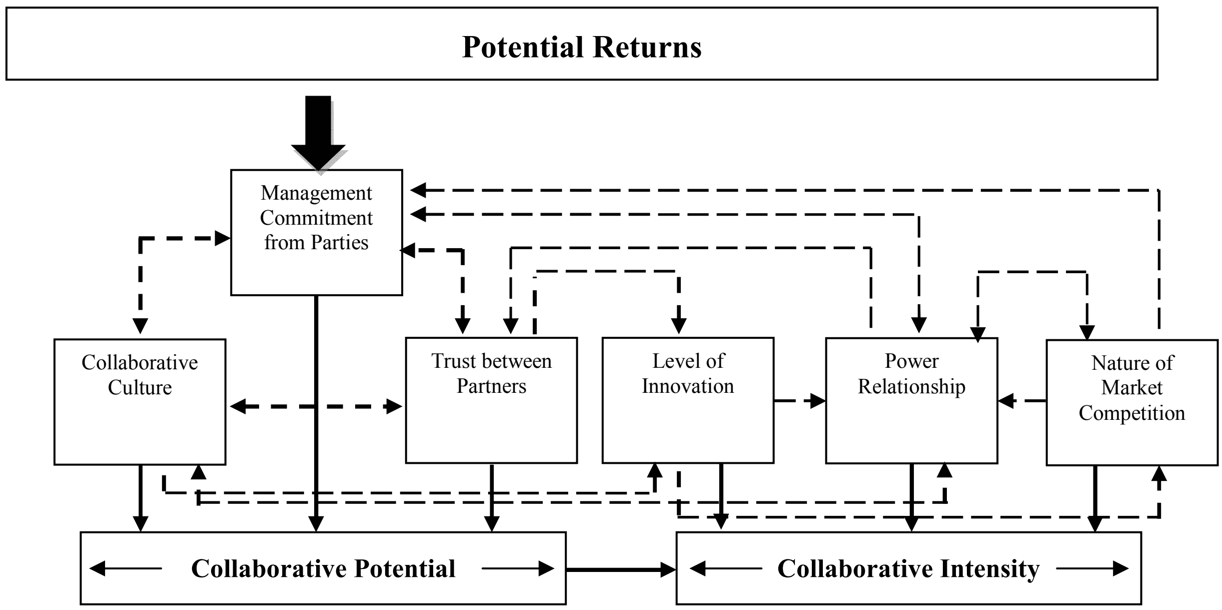


Figure 1 – Conceptual Model

The data will be collected through a series of interviews with case study companies. The objective of the Case Study Protocol detailed in this document is to provide guidelines to ensure that the data can be collected, presented and analysed in a repeatable and reliable manner by a number of different researchers through

minimising interviewer bias as well ensuring that the data is appropriately triangulated.
The data collection and reporting process comprise of four phases as illustrated in Figure 2 below. Each phase is explained in greater detail in the main body of the report.

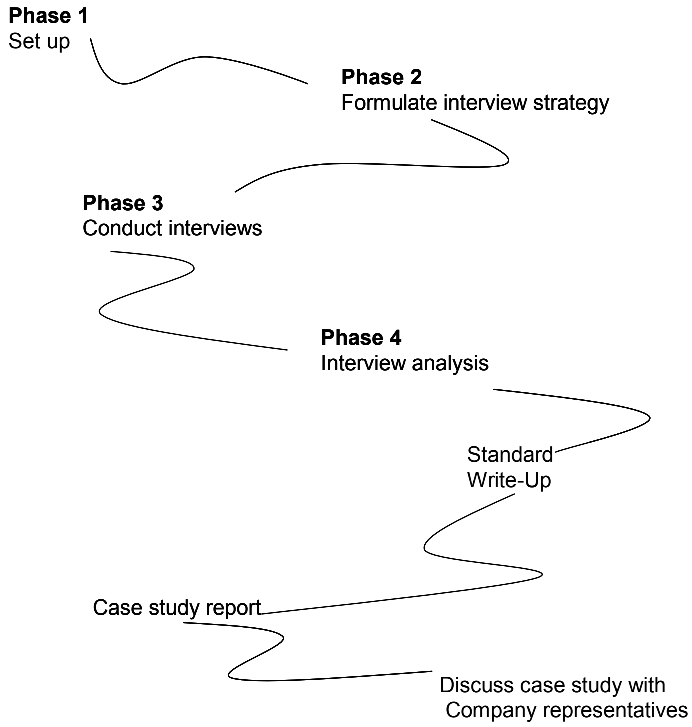


Figure 2– Phases of research

The Unit of Analysis

It is important to clearly identify and fully understand the unit of analysis for this research. The research unit of analysis is the dyadic relationship between business partners in supply chains. This means that the relation will be assessed from both view sides of a relation. This dyadic relationship is considered as a major indicator to the relation between various supply chain partners (supply chains comprises various dyadic relations).
To this end, as a guide, the research is interested in:

- Willingness to participate in the study.
- To be a manufacturing company as the researcher is interested in studying supplier-manufacturer relations.
- The presence of close relation between the two sides (for around 3 years of continuous business relation)
- The presence of high amount of business transaction between the two partners.

Phase 1 – Set Up

Before doing the case study interviews, where possible, the researcher will gather as much information as possible about the company or business. This will assist in formulating the interview strategy. The researcher will also deal with administration and other organisational issues to ensure smooth running of the process.

Desk research

Unless the company is already known to the researcher some general background information will be searched prior to visiting the company in order to understand:

- What is it the company actually does?
- How well or badly the company is doing?
- How they compare to their competitors?

The sources of information will be based mainly on the company web site. When possible, additional sources including newspaper and fame reports will be included.

Meeting with company sponsor

It is likely to have a key contact or company sponsor with whom the researcher will agree the conditions of the research. It is intended to meet with the company sponsor and get some background on the company and the people that will be interviewed. Besides, the sponsor jointly with the researcher will identify the second part of the dyad. The initial meeting with the sponsor will aim to cover the following points:

- **Administration**
    - Timescales
    - Access to:
        1. People (who and how to contact)
        2. Facilities (where interviews will be carried out)
        3. Documentation (Documents as can as possible should be accessed)
- **Confidentiality** - throughout the research confidentiality will be maintained both with the case study organisation and the interviewer. It is therefore important to ensure this fact at the outset. A key point to emphasise is that ***"data gathered from any individual person or the company will not be used in any way in any research report or publication that may incriminate or identify them as an organisation or an individual".*** If required, formal confidentiality agreements could be signed by the researcher and the company or the individual concerned.

- **Overview of organisation** – the objective here is to try to get a feel for the company around the following areas:
    - Brief history of the business - i.e. when did it start, change of ownerships, significant changes etc.
    - Size and ownership – number of people, total sales, expenditure on research and development, is it part of a group (if it is what is the nature of relation with the mother company, localized purchasing

function, localized R&D, role of the mother company in purchasing/sales/marketing)
  - o Products and services offered. (past, present and future)
  - o The nature of the relation with their partners with special attention to the other partner of the selected dyad.
  - o Markets (external and internal) – including: customers, competitors and suppliers. It is important to identify the nature of the market competition.
  - o Future direction and plans (with regard to partnering)
  - o Organisational structure and management team
  - o Prevailing culture (Sharing information, cooperation, joint decisions, etc)

Documentation

The amount of documentation that will be available will vary from company to company, so accessing as much documentation as possible will be of a great benefit – this will help when asking questions in the key areas. Typically the documentation required will include:

- Organisational structures.
- Company communication - internal and external.
- Any documentation that may relate to the collaborative relationships with partners, such as: Joint plans, joint forecasts, joint decisions, collaborative ventures performance reports, minutes of meetings, management reports, collaborative agreements, and management and company wide briefings, and so on.

Where an organisation does not allow data to be taken away, the researcher will ask to see supporting data where possible. This will then be followed up with a brief description in the case report.
Any obtained document will be filed in a secure manner to ensure company confidentiality is maintained.

Site visit

Seeing around the site(s) gives the opportunity to see what the company does. It will be better if the person showing around isn't one of the management team as this may provide different perspective. The site visits, as well as giving a greater understanding of the company's operations will allow making some observations on the following points:

- How organised and smoothly do things seem to run reflecting the prevailing business culture
- What is the atmosphere like – especially if you get the chance to speak to people as the researcher go around

Arranging Interviews

It is important to interview key persons that accounts for direct responsibility for managing the company's interface with the other partner of the dyad. Although the following list provides guidelines on whom to interview, it must be recognised that the size of the organisation and the nature of the dyad will have an impact on how many people will be interviewed.

- CEO/Managing Director/General Manager
- Supply chain manager/purchasing manager.

In arranging the interviews, the following points will be arranged:

- 3 to 4 interviews per day if they are one hour long.
- Leaving a gap between interviews to allow time to compose thoughts and prepare for the next interview.
- Contacting interviewees before interviewing them either to arrange interview times or to check their availability.

Phase 2 - Formulate Interview Strategy

It is important to think about the adequate approach for each interview and assess if it is suitable to follow the same approach for all or to tailor interviews depending upon the person's role or function.

Trying to cover all the areas of the collaborative practices is quite difficult in an hour and it may take the view that some people may have more to contribute than others in some areas. Discussing this with the sponsor to get direction as to who might be best to talk to in which areas would be wise bearing in mind not to be too influenced or directed by them.
However, in order to ensure reliability of data, the researcher intends, where possible, to cover each area with two interviewees (this depends on the number of people that have direct contact with the other part of the dyad) and where possible he will corroborate interview findings with supporting documentation or from the observations.
Where there is a conflict in opinion between interviewees and/or observations and documentation – this will be explicitly reported.
The objectives of the interviews are to have generic conversations with the interviewees (without influencing and directing their answers) to try to understand the nature of the relation between the two partners under the following headings:

- partner relationship management
- Initiating collaboration
- Features of the collaboration
- Partners' joint interaction

Important Note:

The following two pages provide guidelines to conversations that are intended to be held under each heading. It is important to note that the following list does not constitute a comprehensive list of questions that will be asked to each interviewee. The interview is planned to be undertaken as a natural conversation so that the answers to these questions emerge naturally. A mechanistic question and answer session based on these questions may influence the answers provided by the interviewee thus affecting the validity of the data provided.

Case Study Questions

Overview and introduction

Introduction to the research:

- Brief description for the research
- Explanation for the interview process
- Asking for permission to record the interview

Interviewee Orientation:

- What do you do for the organisation?
- Who do you report to and who reports to you?
- Nature of relationship with your partner
- Frequency of meetings with your partner
- What is the scope of your responsibilities?

Organisational and cultural Orientation:

- What do you think about collaborative business relations?
- What do you think the business does well in terms of relation with the other part of the dyad?
- How your relations with your partner look like?
- Do you think that collaboration is one of the biggest challenges to the business over the next few years?
- Do you think that formal collaboration with your partner can provide any competitive advantage?

Partner's relationship management

- What is the nature of your relationship with customers/suppliers?
- What are the undertaken joint activities with customers/suppliers?
- What is the nature of the relation with the selected partner?
- History of the relation; When did you start your collaborative relation? How long have you been working together?
- What is the amount of business interaction between the two partners?

Supportive documents such as minutes of meetings, formal collaborative agreements, and joint activities plans (if any) would be a good help to clarify the relation.

Initiating collaboration

- What is your assessment to collaborative business relations with regard to performance? Do you think that collaboration can push the performance bar upwards?
- What is the major impetus to undertake collaborative business relation?
- How do you assess the top management commitment to building collaborative/close relation with your partner (supplier/customer)?
- How can you demonstrate this commitment?
- Has management ever formed any formal arrangement with partners (that partner) to collaborate?

- Do management offers training programs to boast collaborative relation or to build supportive culture? Do you have joint training programs with your partner?
- What are the major barriers placed by the top management to collaborate (obligations to data sharing for example)? What are the bridges offered by top management to facilitate collaboration?
- How do you assess the collaborative culture in your organization?
- Do you think that there is some information that is considered as secrets and sharing them is considered a threat? specify
- What are the major barriers for sharing information?
- How do you assess the trust relation with your partner? Do you think that trust is important for collaborative efforts?

The management commitment can be demonstrated in the form of work instructions, formal agreements, joint activities, etc.

Features of the collaboration

- What is the nature of the competition facing you (your partner)?
- How do the market dynamics affect your relation?
- What is the nature of innovation in your operations and your partner operation?
- Do you consider the variation in innovation levels between partners a barrier to collaborate?
- Do you think that there are conditions that collaboration should be aborted?
- Do you consider your self more/less powerful than your partner in this dyad? Do you think that this power difference could affect your relation?
- What is the infrastructure and the information system placed to manage relation with that partner?
- Do you believe in win-win partnership? Do you believe that value generated collaboratively will be higher than that generated individually? Do you consider your partner essential for success
- How do top management assess the relation with partners with relatively high/low power?
- What are the barriers/bridges they offer to low/high power partners?
- What is the type of information that you share with your partner (POS, strategic, operational, and tactical)? Do you think that sharing more information can enhance performance and provide better decisions?
- Do you consider the power difference between partners a barrier to collaborate?
- How do you see the sustainability of the relation with partners in different power than your company?

Partners' joint interaction

- What are the joint activities undertaken between you and your partner?
- How do you manage your relation with your partner? (meetings, IT networks…etc) How do you manage the transfer of information?
- What are the tools that are used to manage the relation?

- Have you ever used CPFR, VMI, or CR for managing your collaborative relations?
- What sort of performance information is used to measure your relationship with suppliers/customers?
- How do you identify the performance measures? (individually or jointly)
- How do you measure the contribution of each partner in collaborative ventures?

Closing
- What would you change (with regard to relations with partners) if you could?
- Is there anything else about the relationship with partners you want to talk about?

Phase 3 - Conducting Interviews

The interviews should be carried out as planned and detailed in the previous section. It is intended to:

- Ensure that all interviews are recorded using electronic recording equipment – e.g. MP3 player, I-Pod, etc.
- Take notes (in any preferred format), for example structured English, cognitive mapping.
- Maintain a research diary to facilitate the recording of all relevant observations

The researcher will be ready to submit the electronic recording files, any notes and research diaries to any interested party in order to ensure reliability and repeatability.

Pilot Case

A final preparation for data collection is to conduct a pilot case study to try out the suitability of the protocol and to identify its suitability.

Phase 4 – Analysing Data

The data collected from the interviews will be analysed and both the collaborative potential and collaborative intensity as well as the interrelations between the different factors will be captured. Special emphasis will be given to the power relation between partners and the variation in innovation levels between partners (criticality of information). The results of each case study will be documented in a case study report.

Case Study Report

Once analysed, each case will be documented in detail in a Case Study Report that is structured as follows:

- ***Overview*** – Here, a quick orientation for case will be provided. In addition, a brief introduction of the case study dyad, covering who was interviewed from both sides and the approximate start and finish times of the case study interviews will be introduced.

- ***Section 1/2*** – The report will be divided into two main sections, section 1 and section 2. Each section discusses one side of the case study dyad. Each section will be divided into 6 different headings; introduction, partner relationship management, Initiating collaboration, features of the collaboration, partners' joint interactions and summary and comments.

- ***Introduction*** – a brief introduction to one side of the dyad which is being studied and its context will be provided. This section should include:
    - An overview of the sector the partner operates in
    - Brief history of the partner
    - Ownership (i.e. parent company etc)
    - A general view about the nature of the market competition
    - A general view about the innovation within the partner processes
    - Overview about the responsibility of the interviewees
- ***Partner relationship management*** – Here, under this heading, explain in detail the history of collaboration within this dyad and how the two partners initiated their collaborative venture. The section will identify how the company perceives its relation with customer/supplier partner. The relation with the other side of the dyad will be discussed as well as the amount of business between them.
- ***Initiating collaboration*** – This section will discuss the role that top management plays in forming collaborative ventures. All the activities that demonstrate commitment, including joint training, joint forecast…etc, will be discussed. The trust relation between both sides, from that partner perspective will be discussed. In addition, this section will discuss the current culture and whether it supports collaborative efforts or not.
- ***Features of the collaboration*** – This section will discuss the nature of the market competition and how it affects the desire of partners to collaborate as well as its effect over the desire to intensify the interaction. In addition, this section will discuss the power relation and how it affects their collaborative venture. Finally, the effect over the relation will be highlighted.
- ***Partners' joint interaction*** – Under this heading, the section will identify the joint activities undertaken between the two partners as well as the activities that they abandon. This includes the presence of IT linkage and any formal collaborative tools to manage the relation. Besides, it will provide a description to how partners manage their collaborative relation as well as the measures used in measuring the performance of this collaborative relation.
- ***Summary and comments*** – here a short conclusion should be included discussing the interrelations between the different factors.

Appendix IIIA

CASE STUDY REPORT

A1-A2

Overview:

This research project focuses on business partner's relationship within supply chains. The research unit of analysis is the dyadic relationship between business partners in supply chains. This means that the relation will be assessed from both view sides of business partners.

The following report summarizes the information gathered from face-to-face interviews with two supply chain partners representing a dyadic relationship in one of the whisky Industry supply chains. The report will be divided into two main sections. The first section will cover the interviews conducted by the researcher with the first company representatives. The other section will cover the interviews conducted by the researcher with the other company representatives.

A1 with one of its business partners, A2, was selected to assess their dyadic relationship. The reason behind this selection is the close relation between the two companies. The first company, an SME operating in UK, is considered a low tech company. As there are no R&D activities in their operations. The second company, also an SME operating in UK, is also considered a low tech company since it has lower percentage of innovation in regard to product value with the other product constituents.

Company Name	Interviewee Position	Date of the interview	Interview Duration
A1	Operations Director	27/1/2009	2 hrs
A2	General Manager	10/2/2009	1 hr
		11/2/2009	

Section 1 (The first company):

Introduction:

A1 is operating in the Scottish whisky industry. It provides co-packing and bottling services to support the drinking industry. A1 was founded 15 years ago as a co-packing factory and warehouses. On year 2000, the company was sold to the present owners, 4 shareholders. The company was providing co packing and bottling services to its clients in their first production site (Factory 1). By the end of 2007, the company established its new bottling factory (Factory 2). Currently, A1 is operating two business units, one for the co packing (Factory 1) and another one for bottling (Factory 2).

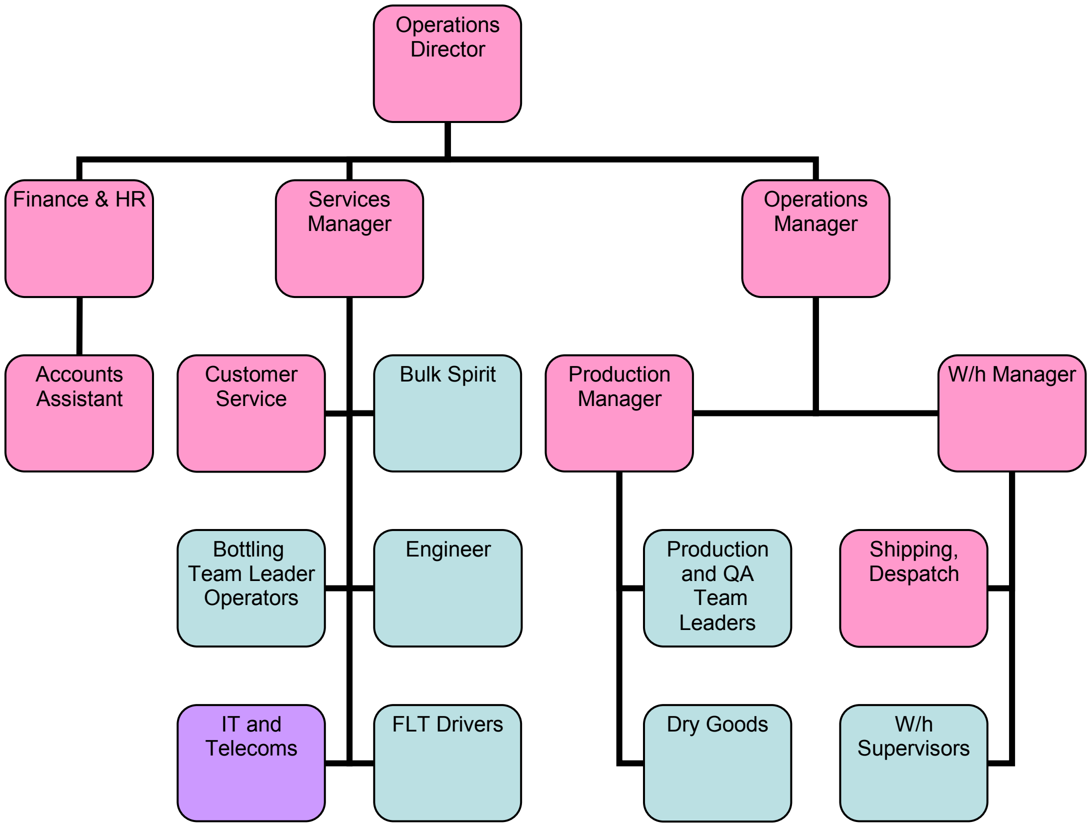
Factory 1 receives bottles of spirits from customers together with gifts and attractive packaging material to pack them into and then ship them back to their final distention (exported).

Factory 2 receives the whisky in tankers from the customers, filling them into bottles, packaging it and then shipping them to their final distention (exported). The customer is responsible for providing the bottling factory with all the required bottles and packaging materials.

The total sales of the company during 2007 were around 3 millions. This was slashed down in 2008 to reach around 2.4 millions. The reason for this is that one of their principle customers dropped out in 2008 and instead of doing co packing in Scotland, they moved it in the market place (their final destination markets).

The co packing is currently representing around 2/3 of the company total profits. The company is planning to reach 50: 50 percentages profits from the two businesses.

The A1 Bottling & Co-pack organization chart is as follows:



All the sales and marketing activities are done by the Operations Director. He is responsible for preparing forecast and identifying expected orders. The forecast is prepared based mainly on projection of previous year sales and their market and customer knowledge. The Operations Director identified the whisky industry as a small export oriented industry and the business basically depends on personal relationships.

The first interview in A1 was conducted with the Operations Director. He is effectively functioning as the Managing Director. He is responsible for sales and marketing, operations, health and safety, and finance. He is reporting directly to the business owners. Senior operations managers for the two factories are reporting to him. The interviews were held in 1 day for around 2 hours.

Partner relationship management:

The relationship between A1 and its partners is quite traditional transactional relationship (arm's length) especially for the co-packing customers. Normally, they retain their customers through the consistent and reliable service they deliver.

In general, there are no joint activities undertaken between the company and its partners. The co-packing customers usually are reluctant to collaborate as the motivation to collaborate is weak. This is because of the simple nature of the process and the ease of transition from one co-packing partner to another without incurring additional costs. They simply say what they want to be done and expect to get it with the right price, right quality and at the right time.

The relation with partners from the bottling side shows quite different picture. The target customers do not have their own bottling facility besides to the relative difficulty to switch from a bottler to another allowed for customers to be more willing to have close relations and do business collaboratively.

The relation between A1 and A2, the other partner in this dyad, could be considered as close relation. They participated in SME excel project (European project) to enhance their cooperation. In addition, they have signed an agreement so that A2 does all bottling in A1 (100%) in return to special prices. A2 also shared A1 (3 years ago) with a small amount (around 30,000 pounds) to improve the bottling capacity in Factory 1 site. Besides, A2 bottling activities with A1 represent 50% from the total sales of Factory 2.

Initiating collaboration

The start-up of the first collaborative venture between A1 and A2 was 3 years ago. This collaboration, which was facilitated by researchers from University of Strathclyde, used SME excel methodology (European project) for quantifying and demonstrating the benefits of collaboration and bringing the two companies to work together for their mutual benefits.

The operations director highlighted the importance of collaboration for business to grow. Despite this, he identified that collaboration is not easy with all the partners especially in the co-packing business. He identified enough economic incentives as the major impetus for undertaking such close venture.

In general, top management commitment to collaboration is evident. Top management commitment was demonstrated by A1 plans to conduct training and educational programs for every one (in Factory 1) on the A2 products to appreciate A2 requirements. These programs will be delivered by the A2 operations manager and A1 site manager. The training aims to provide a good knowledge about the product and the importance of producing good quality products. Frequent face to face meetings between operations managers and between operational staff show the high commitment towards this relation. Besides, the financial investment by A2 in factory 2 allowed for enhancing commitment from A1's side.

The collaborative business culture in A1 seems to be in a continuous improvement. The European project was the first step towards building this culture. The continuous effort by the top management to build supportive culture reflects that building such culture is one of their top priorities. In addition, the efforts by top management to conduct training programs for all its staff members will allow for better opportunity to establish such culture.

The Operations Director views the relation as trustful relation. He identified the high degree of openness in exchanging information as evidence to this trust. The long successful history and the personal relations represented the first stone in this trustful relation. The participation in the SME Excel project reflects the existing trustful relation from both sides. In addition, it provided good opportunity for further amplification for trust. The simple nature of the industry and the absence of any sophistication in the production process provided good opportunity to improve the mutual trust between partners.

Features of the collaboration

The market competition in this industry is severe as it is very price sensitive. Generally, customers are very conservative, very loyal and frequently very reluctant to move to a competitor. Once you have a customer and can really provide a good service and competitive prices, they are unlikely to leave you. The drawback for this is the high difficulty of getting new customers.

A1 has no innovation in their process. The process is very standard and lots of companies are doing co packing and bottling as they do.

The effect of innovation, even in its simplest form of exchanging critical information, can be seen in the rebranding project with A2. In this project A2 aimed to redesign their bottles to have much more contemporary designs. A2 actually disclosed the information about their new design 12 weeks prior the new product launch. The 12 weeks are exactly the needed time for A1 to re-adjust their bottling machines and get ready for the new product. This can easily reflect how the relation was affected when the degree of confidentiality and criticality (innovation) increased.

A2 gave an excuse for this. They admitted that the project was badly managed by the person who was handling it. The project was then handed over to the operations manager (who has a personal relationship with the A1's operations director and there are massive mutual trust) who in turn prepared a contingency plan jointly with A1 operations director so as to coordinate all the activities till the launch of the new design. This can easily reflects how trust can manipulate and compromise the exchange of confidential information.

Regarding the differences in power, the operations director admitted that power plays an important role in shaping the relation. He mentioned that for the co packing factory, the customers are relatively higher in power as the nature of the business is simple and changing partners can be easily done without incurring any additional costs. A1, in this case, are more willing in doing business than their partners. Because of this, partners don’t see much to collaborate.

The case is quite different in the bottling industry. The customers don’t have their bottling site and this makes the relation more interdependent. A1 from one side wants to do business and partner (A2) from the other side has difficulty in transition from partner to another. Hence, this allows to better opportunity for collaboration.

During the interview, the Operations Director identified one of his partners (Chivas) as massively powerful. They have their bottling facility and their sales volume is huge. Chivas is dealing with three different co packing factories. So, they already have an alternative business partner for the co packing, besides, it is easy to switch from partner to partner.

When discussing the sources of power with the operations Director, he declared the size of the business, total sales volume, the ease of transition between partners, and the degree of dependency between businesses partners are major determinants for power.

Partners' joint interactions:

Although there are no formal joint forecasts or joint promotional campaigns in place, the operations director perceives the relation as broad and deep. The reasons behind this are: first; any joint activity will not add much to the relation. A1 is totally away from the market and they actually have no access to the market information. Second, A2 is responsible for providing all the raw materials to A1 for the production. Third, they undergo regular weekly meetings, regular site visits and open relation about requirements and required flexibility. Finally, the personal long standing relationship between the Operations Director in A1 and his counterpart in A2.

A1 has an IT system that is capable of sharing information. But, their partner is against this link. Although the Operational directors identified having IT access in both directions to place orders, look at raw materials and final products stocks and seeing their production schedules will make work easier, he still view the relation as open and don't suffer from lack of information. They usually receive the information that they on time. A part of this is that A1 lead time is very small for both factories (1 weak from receiving an order till the dispatch date).

Currently, both companies are managing their relation through weekly meetings and regular reports. A1 prepares a weekly report to A2 identifying the state of their raw materials and the products ready for dispatch.

It was seen that all collaborative tools (VMI, CPFR, and CR) are not familiar terms to the Operations Director. It was clear that there are no collaborative tools or IT access used for managing their collaboration. Although of this, the current relation between is quite convenient.

Although the operations Director acknowledged the importance of measuring and assessing the relation with business partners, he do not measure or evaluate his relation and results with any of his partner collaboratively. He only prepare measures solely like on time delivery, quality problems.

More collaborative relation between both sides may only make the work flow easier but will not enhance or improve the business more. The Operational Director perceives the relation as ideal and productive. And it is difficult to see any thing can make the relation better apart from the training and education. The current state of exchanging information and the way of doing business (through meetings and sites visits) are quite satisfactory.

Summary and comments:

It is clear that A1's top management acknowledges the role that collaboration plays to make their business grow. Although of this, the operations director identified that the massive resources needed for collaboration makes collaboration with every one unfeasible.

The participation in the European project demonstrated their appreciation to collaborative business practices. The willingness of A1 to collaborate stems from the fact that the market competition that they face is severe and the market is very price sensitive.

A1 was able to create broad, close and deep relation with A2. The high quality and reliable service they provided for A2 (for a 5 years period time) allowed the development of this close relation. Currently, they are doing 100% of A2's bottling. This represents 50% from the total annual sales of A1 (Factory 2).

The personal long standing relationship between A1 operations director and his counterpart in A2 provided suitable ground for collaboraton efforts to prosper.

The SME excel project and the trust (from the long successful history) helped in establishing supportive collaborative business culture. A1 top management willingness and plans to conduct training and educational programs for all the employees on A2 products reflect real desire in building collaborative culture.

The current IT system in A1 allows exchanging information internally and externally providing the suitable platform needed for collaboration practices to succeed. The simple nature of the industry and the obvious short lead time impedes putting the IT linkage in a high priority. From the other hand, this simple nature allowed bypassing cultural problems and eradicated any complexities while exchanging information.

The power differences and its role in shaping business relation were also acknowledged by the operations director. A2 is the principle customer to A1 and they don't have their own bottling facility. The ability of both to exploit this situation and create win-win relation allowed interdependence power relation between the two parties to appear.

In general, the different factors that may affect collaboration and their interrelations were able to provide suitable ground for both parties to collaborate.

Section 2 (A2):

Introduction:

A2 is one of the oldest distilleries in the Scottish whisky industry. They are specialized in producing blended whiskies – the Antiquary range and Talisman. A2 was founded as a formal distillery in 1897. In 1985 the Distillery was acquired by Japanese shareholders, who established the company. A2 now operates 12 stills, and in 2007 and 2008 produced 200000 cases in each year.

The A2 organization chart is not available. The general manager identified that they don't have a clear organizational chart that can be used to draw the relations between various managerial levels in A2.

All the purchasing activities that are related with A1 are managed and supervised by the general manager. The global sales manager prepares the annual forecast for both the local and exporting markets and passes them over to the general manager. The general manager normally uses this forecast to arrange the bottling activities with A1.

The interview in A2 was conducted, by telephone, with the company General Manager. He is responsible for all bottle goods of the distillery. He is reporting directly to the managing director. Global sales manager, logistics manager, dry goods controller and the purchasing consultant are reporting to him. The interviews were held in 2 day for around half an hour each.

Partner relationship management:

In general, A2 relation with its suppliers can be classified as traditional transactional relationship while the relation with A1 can be classified as close and intimate.

To demonstrate this close relation, the general manager mentioned that when he wants to make a commercial decision, he seeks A1 advice, before he implements it.

He also mentioned that in sometimes he seek A1 advice before even presenting his ideas to his colleagues. An example for this was he wanted to change the wet glue labels, a paper with glue applied, with self adhesives. He discussed the idea with A1 first even prior presenting this idea to his colleagues.

The general manager identified his relation with A1 staff as good and close. He acknowledged the importance of having good relationships (personal relations) with partners. He identified good relations between people as the major driver for successful business relations.

A2 was partner to A1 in the European (SME excel) project which aimed at improving the dual relation and enhancing their cooperation. Besides, they have signed an agreement so that A2 does all bottling in factory 2 in return to special prices. A2 also shared A1 (3 years ago) with a small amount (around 30,000 pounds) to improve the bottling capacity in factory 1 site. They got them bottling machine parts, tanks and production line parts. These were moved then to factory 2. Besides, A2 is doing 100% of its bottling activities with factory 2 and this represents 50% from the total sales of the factory 2.

Initiating collaboration:

As with the case of A1, top management commitment to collaboration is evident. This was demonstrated by their participation in the European project 3 years ago. Top management is acknowledging the importance of doing business collaboratively to make their business grow. Despite this, the General Manager said that they don't collaborate with any one; they only collaborate with A1 because they consider them as strategic partners.

The financial investment, from A2, in the A1's factory is clear evidence to the high commitment from A2. In addition, the A2 general manager identified his personal wish to make additional financial investments at A1 to improve their bottling factory. The regular face to face meetings between teams from both companies shows the management commitment towards having closer relations.

A2 top management is trying to build a supportive collaborative business culture. People from A2 go to A1 and spend a lot of time learning parts of the A1's jobs. Besides, A2 do some presentations to A1 employees to make them better understand A2 products and educate them the importance of having good quality products. This collaborative European project also allows for establishing supportive collaborative culture in the company, which in turn, allows trust between business partners to occur.

The general manager perception is that the relation is close, deep and full of mutual trust. The personal relations and the previous successful history between the two companies allowed for quite acceptable levels of trust in the relation. This in turn provided suitable ground for their participation in the European project to undertake collaborative relation with A1. The financial investment in A1 shows the high degree of trust from A2's side. He cited an important situation to demonstrate this mutual trust relation. Recently, A2 lost one of their staff members and till they find another one they contracted a member from A1 to work with them. He found this as a good opportunity to expand this employee's knowledge about A2 product. Besides, the general manager mentioned that when they recruit a new member of staff, they provide him orientation with to A1 to see their factory. Recently, he arranged with A1 operations director to let new employees stay for a week at A1 site. This aimed to making them develop their understanding of A1 needs and to build good relationship between A2 and A1 employees.

Features of the collaboration:

The market competition that faces A2 pressures them to improve their products, have better packaging, better presentation and higher quality. This nature was able to trigger having good relations with suppliers to provide them with competitive advantage in this highly contested market.

The market competition that A1's face, from A2 point of view, is quite severe. He identified that the market is full of several bottling providers. The ease of transition from a bottler to another amplifies the market competition. The long history, the personal relation the reliable and consistent service they receive and the bad experience they had with another bottler allowed to manipulate the market condition factor. Both partners were able to create win-win relation for the sake of their mutual benefits.

When discussing the R&D activities, A2's general manager mentioned that they have no fixed amount to be spent on the R&D activities (changes over years); they sometimes spend a lot of money on the R&D. He referred to re-branding as one of their R&D activities that was done in the previous year and costs. His point of view is that new ideas, new packaging for example, can be seen as R&D because these are new ideas that no one has done before.

Concerning the re-branding project, A2's general manager, although admitted the short notice about the project, he said that all projects had never had enough time. He added that the existing level of trust with A1 was able to solve this problem and allowed them to jointly prepare contingency plan to manage this project till the launch of the new bottles.

Regarding the differences in power, the general manager admitted that power plays an important role in shaping relations with partners. He perceives him self as having an obvious better position than A1. The reason for this is that he is their biggest customer. In addition, he identified moving from a bottler to another, although costly, not hard to do. He thinks that if he moved his business form A1 they will have a lot of problems.

He also identified that the current strong relationship with A1 is because of two things; first, being as their principle customer. Second, the good relationship with the people and the staff of A1.

During discussing the issue of power, the general manager mentioned that when they tried another bottler, and they were not the principle customer, and the power was skewed towards their partner, they received an inferior service in terms of lead times and flexibility.

When discussing the sources of power with the general manager, he declared the size of the business and the degree of dependency between businesses partners are major determinants for power.

Partners' joint interactions:

Despite the close relation between A2 and A1 no joint activities (joint planning, joint forecasting) are in place. From his point of view, any joint activity will not add much to the relation. A1 is totally away from the market and they actually have no access to the market information. In addition, A2 is responsible for providing all the raw materials to A1 for the production.

A2 has an IT system that is capable of sharing information internally. Although, A2 manager acknowledged having IT link with A1 as this can help them in reviewing their current stocks, the current way is still to a great extent satisfactory to him. Currently, they receive monthly report, stock report, from A1 identifying all their stocks, raw materials and final products status. His concern about the IT link was that no one should be allowed to have information more than he needs (he meant the raw materials prices).

In general, the general manager identified no barriers when dealing with A1. They are providing him with all the required information at any time he asks for it. On the other side, A1 usually receives the information that they need on the right time.

The relation is currently managed through regular weekly meetings, regular site visits. During the meetings, they discuss all the needed information and the problems that they face. From the A1 operations Director point of view, no barriers are placed by A1 top management towards exchanging information.

Although there are no collaborative tools or IT access used for collaboration, the current relation between A1 and A2 is quite convenient. All collaborative tools (VMI, CPFR, and CR) are not familiar terms to the general manager.

Similar to A1, the general manager acknowledged the importance of measuring and assessing the relation with business partners but he do not measure or evaluate his relation and results with A1 collaboratively. He only prepare measures solely like on time delivery and quality problems.

More collaborative relation with A2 will not enhance or improve the business more. It may only make the work flow easier. The general manager perceives the relation as ideal and productive. The only thing he mentioned that would be good and improve the relation is the shared investments. Otherwise, the current state of exchanging information and the way of doing business (through meetings and sites visits) are quite satisfactory.

Summary and comments:

The relation between A2 and A1 extends over a period of more than 5 years representing a good close relation success story. The top management is fully aware with the role of collaboration in providing them with competitive advantage in the highly competitive market that they are serving.

The first motive for A2 to have close relation with A1 stems from the fact that they don’t have their own bottling facility. The consistent and reliable service coupled with the good personal relation with A1's operations director provided solid grounds for their collaboration.

The participation in the SME excel project represents a clear demonstration to pursue collaborative strategies. Currently, 100% of A2's bottling is done by A1. This represents 50% from the total annual sales of A1 (factory 2).

The SME excel project and the trust (from the long successful history) helped in establishing supportive collaborative business culture. In addition, the orientation programs for A2's staff at A1 site represent a good opportunity for trust to nourish as well as the establishment of personal relations and suitable business culture.

The power differences between the two partners can be seen as skewed towards A2. The reason for this is the ease of switching fro a bottler to another and the availability of several bottlers. A2 was able to create win-win partnership for the mutual benefits of both parties.

Generally, A2 was able to provide the suitable grounds, through creating interdependence relation, for clear win-win long term relation with A1.

Appendix IIIB

CASE STUDY REPORT

B1-B2

Overview

This research project focuses on business partner's relationship within supply chains. The research unit of analysis is the dyadic relationship between business partners in supply chains. This means that the relation will be assessed from both view sides of business partners.

The following report summarizes the information gathered from face-to-face and telephone interviews with two supply chain partners representing a dyadic relationship in one of the FMCG supply chains. The report will be divided into two main sections. The first section will cover the interviews conducted by the researcher with the first company representatives. The other section will cover the interviews conducted by the researcher with the other company representatives.

B1 with one of its business partners, B2, were selected to assess their dyadic relationship. The reason behind this selection is the close relation between the two companies. The first company, a multinational company located in Egypt and managing business operations for North Africa and Middle East with its mother company in UK, is considered a low tech company since its expenditure on research and development is small. All researches and new ideas are developed and managed from the mother company in UK. The second company, an SME operating in Saudi Arabia, is considered a low tech company as all R&D activities is focused on solving quality related problems.

Company Name	Interviewee Position	Date of the interview	Interview Duration
B1	Regional Supply Manager (Raw materials)	8/1/2009	3 hrs
		18/3/2009	
		18/5/2009	
B2	CEO	9/5/2009	1 hr

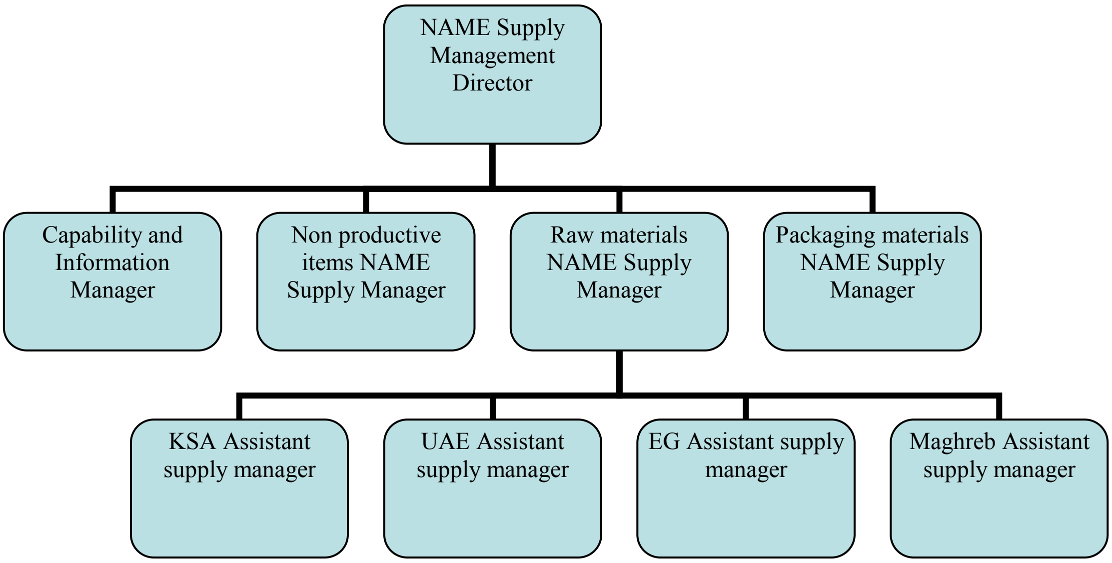
Section 1 (The First company):

Introduction:

B1 is a prominent company in the FMCG industry. It provides 400 different brands spanning 14 categories of home, personal care and foods products. B1 is now one of the world's biggest companies. B1's first business in the Middle East started in Saudi Arabia in the 1930's and by 1978 the first factory was set up in Jeddah to supply the region with home and personal care products. In Egypt, B1 established in 1991 a joint venture with Fine Foods Company, part of the Rachid Group. This was followed by the establishment of Lever Egypt in 1992. In June 1999 Fine Foods Group & Lever Egypt merged to become B1 Egypt, creating one of the largest FMCG businesses in Egypt. In January 2001, the operations of B1 Levant were merged into the Egyptian company to create B1 Mashreq. B1 Middle East is part of the wider B1 North Africa and Middle East geographic cluster that operates under a unified leadership team whose role is to align, coordinate and leverage the operations of the businesses across the three business units: Maghreb (Morocco, Tunisia, Algeria, Libya), Mashreq (Egypt, Lebanon, Palestine, Jordan, Iraq, Sudan, Syria), Kingdom of Saudi Arabia, and Gulf (U.A.E, Oman, Bahrain, Yemen, Kuwait, Qatar).

The total sales of B1 NAME during 2008 were around 7 billions Egyptian pounds.

The B1 organization chart is as follows:



All purchasing activities in North Africa and Middle East (NAME) are managed through the NAME supply management director. He is responsible for buying raw materials, packaging materials and non productive items for A1 NAME. Under the NAME supply management director there are the NAME chemical, oil and food ingredient manager, NAME capability and information manager, NAME packaging manager and NAME NPI (non productive items) manager. Each manager is responsible for negotiating terms, preparing buying contracts and developing relations with suppliers under his category.

The purchasing managers receive the company forecasts at the beginning of the year divided quarterly. They usually uses the annual purchasing forecast when negotiating the buying terms and contracts with suppliers.

The interviews in B1 were conducted in three days for around 3 hours with the NAME supply manager (Raw materials). He is responsible for managing buying operations of chemicals, food ingredients and oils in NAME. He is also responsible for supplier development initiative in NAME. He is reporting directly to NAME Supply Management Director.

Partner relationship management:

The relation between B1 and its partners differs significantly in accordance to different classifications and segmentation criteria. B1 is segmenting their suppliers into local, regional and global suppliers. Local suppliers are those supplying Mashreq; regional suppliers are supplying NAME while global suppliers are supplying several B1 sites worldwide.

B1 is further segmenting its suppliers into 3 main clusters; gold, silver and bronze. Even within each cluster, suppliers are divided according to their strategic importance. The criteria for this classification can be summarized in the following points:

- How much money B1 spend with the supplier each year.
- What is the nature of the market complexity and constraints? Is he providing materials that any one can provide or he is the only provider?
- Is the supplier providing to only one B1 site or he is providing several sites?
- Are the supplies imported or exported?

In general, all joint activities undertaken between B1 and its partners depend upon this classification. The relation with bronze suppliers can be classified as a transactional relation (arm's length). The relation with gold and silver suppliers is close relation with different intensities. They share forecasts, information, undertake regular meetings and jointly participate in different activities. The main difference between gold and silver suppliers is that they don't undertake joint training nor they conduct joint technical assistance with silver suppliers. Even the intensity of collaboration in the gold cluster varies from supplier to another. This intensity is determined in accordance to the depth of the relation depending on the existing level of trust, the history between the two companies and the strategic importance of the partner. The purchasing manager acknowledged the importance of having social relationship with gold suppliers in order to improve the relation and maintain close, successful and productive business relation.

The relation between B1 and B2, the other partner in this dyadic relation, could be considered as close and deep. They started their business together nearly 4 years ago. Further more, B2 participated in B1 supplier development initiative 2 years ago as a gold supplier. B2 is considered as a key supplier to B1 as they are supplying 90% of the total B1 consumption from the Sulphonate. This represents 50% from B2 total production capacity.

Initiating collaboration:

The first trigger of formal collaboration between B1 and B2 occurred when B1 announced its supplier development initiative 2 years ago. This initiative aimed at classifying suppliers in accordance to their strategic importance to B1. B2 was classified as a gold supplier to B1 because B1 is buying from them with millions of US$ annually and they are providing several categories and several B1 sites with their raw materials.

The NAME purchasing manager acknowledged the importance of doing business collaboratively. He identified collaboration between business partners as the path to maintain business success. Despite this, the purchasing manager identified that collaboration is not easy and will not be feasible to undertake with all suppliers. For collaboration to succeed there should be sufficient and generous return on the invested time and resources. This obviously will not be present with all suppliers. He identified some relations as transactional with limited interaction and will remain transactional. More collaboration with such partners will add nothing to B1 but on the contrary will waste the available resources.

Generally, top management commitment to collaboration is evident. This was demonstrated by the supplier development initiative undertaken by B1. This initiative aims to develop collaborative relations, with different levels of interactions, with suppliers based on their strategic importance. The interaction between B1 and its suppliers varies from sharing forecasts, joint training, joint investments and cost savings programs.

At the start up, B1 and B2 top management conducted a meeting and discussed their willingness to undertake close relation and B2's desire to participate in the supplier development initiative. B1 and B2 top management stated explicitly their willingness to undertake collaborative venture and build close relation with each other during this meeting.

The supportive business culture to collaboration in B1 is to a great extent clear. This could be inferred from the perception of the purchasing manager about the nature of exchanging information internally. He declared that exchanging information internally and the degree of transparency between internal departments is high. All required information is placed on a shared system that they can easily access. The supplier development initiative is another catalyst towards building collaborative culture within B1 staff. It represents a clear message from top management to B1 staff to pursue collaborative and open relations with their business partners.

He also admitted that undertaking collaborative business relation provides B1 with a competitive advantage in terms of cost, quality, and availability. This reflects the internal business culture in B1 that acknowledges undertaking collaborative and close business relations.

B1 purchasing manager acknowledged the role of trust between partners for collaboration to succeed. The essence of trust between B1 and B2 stems from the successful history of doing business together. The classification of B2 as a gold supplier, with the highest rank, reflects the existing trust from B1's side. The service that they received during the past 4 years amplifies the trust towards B2.

Features of the collaboration:

Generally, the market competition between B1 suppliers is severe. B1 is spending millions of US$ annually on purchasing their raw materials. They usually choose among variety of suppliers. Suppliers compete severely, based on cost, reliability and quality, against each other to supply B1 as this represents a good business opportunity to them.

The market competition that faces B2, from B1 point of view, is quite smooth. They highlighted the difficulty to switch from B2 to another supplier. The reason for this is the complexity in finding another supplier that can provide B1 with the same quality, reliability and suitable cost within NAME geography and at the same time is willing to undertake close relation. Theoretically, this puts B2 in better position while negotiating with B1. On the other hand, B1 is buying with millions of US$ every year from B2 generating a lot of profits to them. B1 provides its gold suppliers with assistance to improve their operations and enhance their, manufacturing, management and marketing strategies. It is obvious to the suppliers that making business with B1 will benefit them in terms of making good profits and enhancing their operations performance. This makes the relation as interdependence relation where each side can easily see the benefit from doing business collaboratively with the other side.

Basically, B1 NAME has few innovations in their process. All research and development activities are done by the mother company. Research in B1 NAME basically focuses on the development and management of new packaging which fits more under the heading of exchange of critical information.

Regarding the differences in power, the NAME supply manager admitted that power plays an important role in shaping business relations. He classified the markets as supplier market (high demand and low supply) or buyer market (high supply and low demand). Generally, when it is a supplier market, the supplier will be in a better power position and vice versa. He refers to this classification as one of the major determinants for partners' power relation. The NAME supply manager identified that they are more powerful than almost all of their suppliers. Even when it is a supplier market, the ability to provide suppliers with breakthrough improvements in terms of management, strategy, financing, manufacturing excellence puts them in a better position in terms of power.

In addition, he declared the size of the business, total sales volume, market complexity, supply market conditions (Buyer or Supplier market), patent, and the degree of dependency between businesses partners are major determinants for power.

Partners' joint interactions:

B1 and B2 undertake several joint activities together. B1 conducted training programs to B2 staff. On the other hand, B1 staff receives orientation programs on B2 site. The aim behind the training is to increase the appreciation of each other role in the success of the business. Besides, this provides the opportunity to build and improve personal relationship between B2 and B1 staff members.

In addition, B1 assigned, financed and participated with third parties consultants to conduct gap analysis to B2, identify their weaknesses and prepare closure programs to overcome these weaknesses.

Besides, they jointly developed a cost model to automatically calculate B2 selling prices to B1. The cost model comprises the commodity price, conversion cost, logistics cost and B2's profit margin. With every increase or decrease in the commodity price, the cost model automatically changes the selling price without any further negotiations. The cost model between B1 and B2 can easily reflect the top management commitment to collaboration.

B1 and B2 don’t prepare any joint forecasts or joint promotions as this will not provide any improvements in the forecast accuracy. Both companies are totally away from each other markets and preparing forecasts together will not add much to the relation. Instead, B1 shares its annual forecasts with B2 followed by updated rolling forecasts every month.

B1 has an IT system that facilitates exchanging information internally between different functions. They are currently implementing Vendor managed inventory (VMI) with some of its gold and silver suppliers. Although there is no IT link between B1 and B2, they are currently managing to implement VMI with B2 (planning to finalise this within 2-3 months). The purchasing manager identified implementing VMI as a good opportunity to enhance the relation and makes the work process easier.

Currently, both companies are managing their relation through monthly meetings and regular reports. They discuss the KPI's (balanced score card), rolling forecast, capacities and deliveries during their meetings. They also exchange all the required information through the meetings. The regular meetings undertaken between B1 and B2 operations team show the commitment towards closer relations with each other.

Generally the NAME supply manager identified that there aren't any obstacles for sharing information from both sides. B1 never suffered from lack of information and absence of transparency from B2. He also assured that they never hide any information from B2. They usually exchange information through regular weekly meetings, e-mails and telephone calls.

The NAME purchasing manager acknowledged the importance of setting joint performance measures with B2. He added that they are trying to switch from measuring the performance to managing the performance, which is one step further. Currently, they are preparing, jointly, scorecard to measure and manage the performance of their collaboration. The performance measurements include measures for customer service, cost, quality, stocks, and other important KPIs, customer service level (delivery time), quality, innovation delivery (how fast can you react, develop and provide raw material on time for new products) and stocks amount. Managing the performance encompasses setting objectives, measuring the performance, analyzing loss tree and setting improvement plans. The loss tree helps in analyzing all problems that they both face and identify current losses. The aim behind this is to identify opportunities for improvement and to discover any cost saving opportunities. Although it is only 25% activated, they are in continuous effort to make it reach its final form.

Summary and comments:

It can be seen that B1 NAME acknowledges the effective role of collaboration in business success. B1 appreciate that having close relations with their strategic suppliers will allow for significant savings and hence improve their competitiveness.

With the aim of improving their suppliers and building close relations with them, B1 started its development program, supplier development initiative. This initiative reflects top management awareness and commitment to collaborative business relations. At the start-up of this initiative, they classified their suppliers as gold, silver and bronze, with gold suppliers as the most important suppliers to B1. Gold suppliers are characterized by being those that B1 spend lot of money with them annually and those whom are fully trusted by B1.

B2 was classified as a gold supplier as they are fully trusted by B1. They are considered as a key supplier to B1 as they are supplying 90% of the total B1 consumption from the Sulphonate. The ability to provide good and reliable service for around 4 years allowed trustful relation to exist.

The prevailing business culture in B1 supports the existence of collaborative environment. The current IT system that allows exchanging information internally and externally provides the suitable platform needed for collaboration practices to succeed.

The power relation with B2 seems to be more skewed towards being interdependence relation. Although, B1 is still more powerful and having the upper hand. The ability of B1 to provide its suppliers with development programs and their ability to develop new suppliers (although it will take time) puts them in relatively better position. Besides, B1 is buying with millions of US$ every year from B2 thus generating a lot of profits to them.

In general, B1 is always trying to keep good relations with suppliers, apart from any power difference. The good personal and social relations that they have, and are keen to build, generally with their suppliers (B2 in specific) clearly demonstrates the wise and purposive use of their power leverage. The limited room for innovation in B1 NAME allowed smooth exchange of information with suppliers and eradicated any complexities while exchanging information.

The difficulty of switching from a supplier to another helped in smoothening the market competition for B2. It is quite difficult to find another supplier that can provide B1 with the same quality, reliability and suitable cost within NAME geography and at the same time is willing to undertake close relation as B2.

Generally, B1 was able to create successful and sustainable business relations with its strategic partner, B2, and exploited this partnership for the sake of both partners' mutual success.

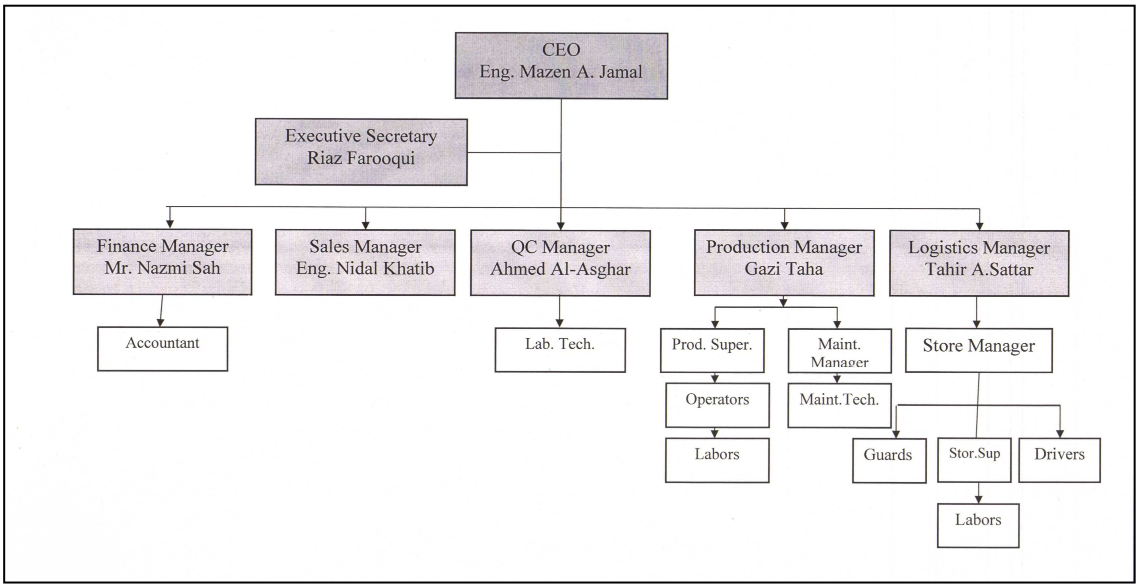
Section 2 (B2):

Introduction:

B2 Company Limited is a renowned & reliable supplier for high quality chemicals for scientific and industrial applications. The company produces chemicals that are basically used in detergents. B2 was established in 1998 with its commercial production started in the middle of 2001. Although B2 is only few years old, it was able to establish a wide base of customers operating in different Arabian countries. They were also able to establish successful and strong business relations with several large multinational companies such as Unilever, P&G and Henkel.

The total sales for B2 were around 10 Million Dollars during years 2001, 2002 and 2003. These figures started to rise year after the other through the increase in the customer base and their production capacity. It is planned to reach around 50 Million dollars during 2009 especially after adding new production line that will double the current production capacity to reach around 40000 metric Ton/year.

B2 organization chart is as follows:



The sales and marketing activities are distributed between the CEO (handling key accounts) and the sales manager (Handling traditional accounts). The company is considering the key accounts customers as strategic customers. Hence, all the activities that are undertaken by B2 to manage its relations with the key accounts (e.g. B1) are the sole responsibility of the CEO.

In general, B2 prepares its production plan in accordance to the annual forecasts prepared by B1. B1 annual forecast is followed by rolling forecasts for every month to update their annual forecast.

The interview was conducted with the company CEO. He is responsible for developing the company strategic orientation and the associated strategies for the company growth. In addition, the CEO is responsible for the procurement of strategic supplies. Besides, he is responsible for managing relations with the key accounts (Unilever, P&G and Henkel). The CEO is reporting directly to the board of directors. Vice president for operation, logistics manager, purchasing manager and the financial manager are directly reporting to him. The interview was held in 1 day for around one hour. The interview was done by the telephone.

Partner relationship management:

Generally, B2 is trying to build and keep good relations with its customers. In specific, the relation between B2 and B1 can be classified as strong, close and intimate. The CEO referred to the personal relationship with B1 supply manager as an important driver towards the existing productive and close business relation. In his point of view, people are the major foundation of organizations and personal relationships are the building blocks for any successful business relation. Any changes in management teams may cause dramatic changes in the way business relations are handled.

The CEO identified B1 as their strategic partner. B2 and B1 business relation extends over a period of more than 4 years. B2 is considered as a key supplier to B1 as they are supplying 90% of the total B1 consumption from the Sulphonate. This represents 25% from B2 total production capacity (after they added the new production line).

Initiating collaboration:

In general, B2 top management commitment towards having close business relation with B1 is evident. This commitment was demonstrated by the CEO handling all the business operations with B1 by himself. He identified that he attends and participates in all meetings with B1 purchasing manager with the aim of ensuring that B1 is getting consistent, reliable and high quality service.

The participation with B1 in the supplier development initiative, as one of the strategic suppliers to B1, conveys clear message to all B2 employees that the company is totally committed to the relation with B1. And hence acts as a catalyst towards building supportive culture. In addition, building supportive collaborative culture within partner's organizations is one of the main objectives of the supplier development initiative.

The supportive business culture to collaboration could be deduced. The CEO identified clearly that the relation with B1 is of a crucial importance to B2. He identified that he is totally committed to the relation and that he is continuously conveying this message to his subordinates. He is in a continuous effort to build collaborative business culture within B2 through providing awareness sessions to all the staff to keep their attention towards the importance of B1 as a strategic partner.

The essence of trust between B2 and B1 stems from the successful history of doing business together. The CEO identified B1 as a very big company that is committed to develop its key suppliers. He added that they provide development programs for its key suppliers on advanced management techniques, efficient purchasing…etc. They usually invest time, money and different resources to develop their suppliers and improve the way that they are doing business. He added that B1 is always trying to create win-win partnerships with its key suppliers. The perception of the CEO about B1 and their active role in developing their business coupled with B1 continuous support (especially in difficult times) conveys the level of trust from B2's side.

Features of the collaboration:

The market competition that faces B2, from CEO point of view, is to a great extent high. The market is full of large and small players that compete severely based mainly on price and reliability. B1 as a large customer with considerable amount of purchases coupled with their ability to provide development programs to their suppliers amplifies the competition between suppliers in their pace to gain business with them.

Although of the high competition and the relatively short age of B2, they are considering themselves as market leaders. He referred to the good financing conditions that they have and the high quality service that they provide, their competitive selling prices and their ability to procure with considerably competitive prices as the main drivers for their high competitiveness. The high market share that they have (90 % from B1 business) proves his point of view. These conditions were able to manipulate the market competition and provided them with the opportunity to build strategic partnership with B1.

When discussing the R&D activities, B2's CEO mentioned that R&D activities are merged with the quality control activities. Generally, R&D activities are limited to solving quality related problems. When any problem arise, they try to customize their products to meet the customer needs through adding some additives, increasing/decreasing viscosity, changing color, …, etc. it is clear that there are limited R&D activities in B2.

Although B2 CEO admitted that power plays an important role in shaping business relations, he classified power differences between partners into smart power and harsh power, with completely different influences over business relations. Harsh power can be seen in relations with the powerful partner tries to impinge its way and conditions over its partner and trying to reap all the benefits for his own self. Smart power is the ability of the powerful partner to negotiate and find different alternatives to create win-win situation with its partners. Although he admitted that B1 is more powerful than B2, he identified that they are always using smart power in managing their relation and are always aiming to create win-win partnership.

When discussing the sources of power with the B2 CEO, he declared the financial power and stability, size of the business, total sales volume, availability of alternatives, and the degree of dependency between businesses partners are major determinants for power.

Partners' joint interactions:

The current relation between B1 and B2 is quite convenient from B2 top management point of view. B2 CEO identified that the relation is ideal, successful and productive. The CEO identified that they undertake several activities with B1 centred on training activities. B1 conducts several training programs to B2 staff with the aim of improving their operational and managerial capabilities and competencies. B1 staff, on the other hand, receives orientation programs on B2 site. In general, the aim behind the training is to increase the appreciation of each other role in the success of the business. Besides, this provides the opportunity to build and improve personal relationship between B2 and B1 staff members as this provides the main foundation for successful business relations.

In addition, B1 provided assistance through assigning third parties consultant to B2 to analysis their internal processes to identify their weaknesses and prepare remedy programs. B2 top management readiness to be open and disclose all its critical information to B1 conveys the high degree of commitment to collaboration.

Both companies jointly developed a cost model to automatically calculate B2 selling prices to B1. The cost model comprises the commodity price, conversion cost, logistics cost and B2's profit margin. With every increase or decrease in the commodity price, the cost model automatically changes the selling price without any further negotiations. The cost model between B1 and B2 can easily reflect the top management commitment to collaboration. In some cases, B1 use their power leverage and negotiate the buying terms with B2 suppliers to get better prices for B2's raw materials and hence decrease the commodity price.

Despite the close relation between B2 and B1, they aren't any joint forecasts or joint promotions in place. The reason for this is that any joint activity will not provide any improvements in the forecast accuracy and will not add much to the relation. Both companies are totally away from each other markets and preparing forecasts together will not add much to the relation.

Generally, B2 CEO identified that there aren't any obstacles for sharing information from both sides. B2 don't suffer from lack of information or absence of transparency from B1 side. He also assured that they never hide any information from B1. They usually exchange information through regular weekly meetings, e-mails and telephone calls.

Although both B2 and B1 have an IT system that provides suitable ground for exchanging information between them, they don't exploit it till now. B2 CEO expressed explicitly his desire to implement VMI with B1. They are still negotiating this matter with each other and they are expecting to implement it in the near future. They see this as a good opportunity to improve the relation and make work processes easier.

Currently, both companies are managing their relation through monthly meetings and regular reports. They discuss the KPI's (balanced score card), rolling forecast, capacities and deliveries during their meetings. They also exchange all the required information through the meetings.

The two partners are measuring the performance of the relation with some joint measures. These measures include customer service, cost, quality, stocks. Currently, they are jointly preparing scorecard to measure and assess the performance of their collaboration. The performance measurements include important KPIs, customer service level (delivery time), quality, innovation delivery (how fast can you react, develop and provide raw material on time for new products), cost, and stocks amount. The scorecard is only 25% activated; they are in continuous effort to make it reach its final form.

Summary and comments:

B2 top management showed clear appreciation to the role that collaboration plays in providing competitive advantage to collaborating partners. B1 account generates millions of US$ to B2 that are worthy to maintain. The participation in the supplier development program shows B2 top management commitment to keep the relation with B1 as successful as possible.

B2's top management is in a continuous effort to build supportive culture to collaboration. The continuous awareness sessions, advice and monitoring from the CEO allows the different managerial levels to understand the role that maintaining close relation with B1 plays in their business prosperity. The long history and the ability of B1 to develop win-win relations with them provided suitable grounds for trust to nourish.

The limited room for innovation in B2 allows smooth exchange of information bypassing any unforeseen problems that may arise from inadequate business culture and level of trust.

In general, the market competition that B2 faces is quite high. The ability of B2 to provide high quality products and reliable customer service allowed them to gain high market share and to be a market leader in relatively short time.

B2's CEO highlighted the role that personal relations play in maintaining successful and close business relations. In his point of view, people are the major foundation of organizations and any changes in them (management teams) may cause dramatic changes in the way business relations are handled.

Appendix IIIC

CASE STUDY REPORT

C1-C2

Overview

This research project focuses on business partner's relationship within supply chains. The research unit of analysis is the dyadic relationship between business partners in supply chains. This means that the relation will be assessed from both view sides of business partners.

The following report summarizes the information gathered from face-to-face with two supply chain partners representing a dyadic relationship in one of the FMCG supply chains. The report will be divided into two main sections. The first section will cover the interviews conducted by the researcher with the first company representatives. The other section will cover the interviews conducted by the researcher with the other company representatives.

C1 with one of its business partners, C2 were selected to assess their dyadic relationship. The reason behind this selection is the close relation between the two companies. The first company, a multinational company located and operating in Egypt supplies Egypt, Lebanon, Palestine, Jordan, Iraq, Sudan, and Syria with its mother company in UK. C1 is a low tech company since its expenditure on research and development is small. All researches and new ideas are developed and managed from the mother company in UK. The second company, an SME operating in Egypt, is considered a low tech company as there are no R&D activities in their operations.

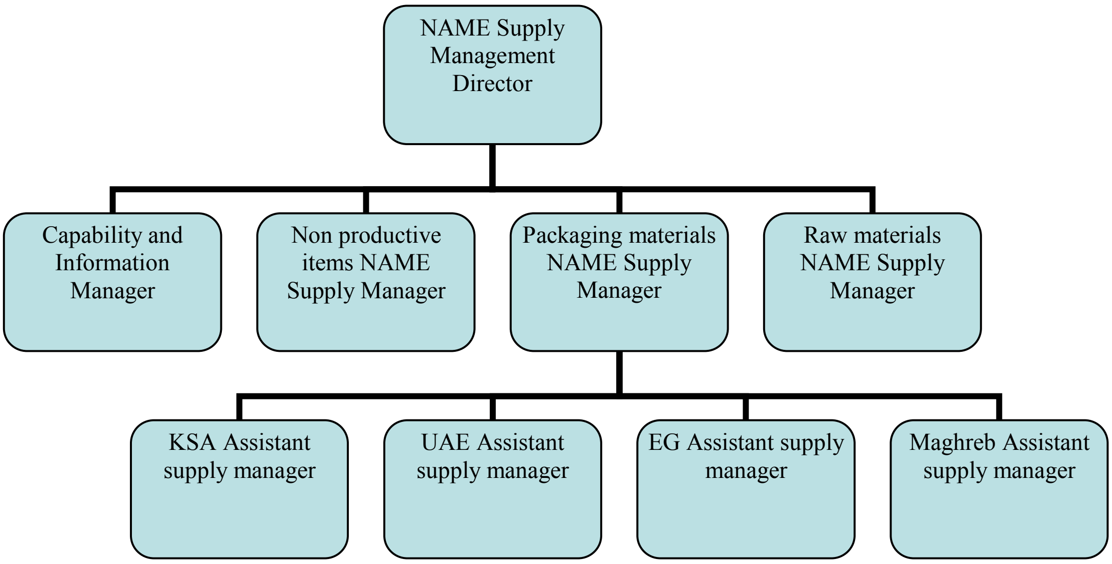
Company Name	Interviewee Position	Date of the interview	Interview Duration
C1	Assistant packaging materials supply manager	18/3/2009	2 hrs
		23/5/2009	
	Regional packaging materials supply manager	18/5/2009	30 min
C2	Managing director	28/5/2009	45 min
	Plant manager	28/5/2009	1 hr

Section 1 (The First company):

Introduction:

C1 is a prominent company in the FMCG industry. It provides 400 different brands spanning 14 categories of home, personal care and foods products. C1 is now one of the world's biggest companies. C1's first business in the Middle East started in Saudi Arabia in the 1930's and by 1978 the first factory was set up in Jeddah to supply the region with home and personal care products. In Egypt, C1 established in 1991 a joint venture with Fine Foods Company, part of the Rachid Group creating one of the largest FMCG businesses in Egypt. In January 2001, the operations of C1 Levant were merged into C1 Egypt to create C1 Mashreq (Egypt, Lebanon, Palestine, Jordan, Iraq, Sudan, and Syria).

The C1 organization chart is as follows:



All purchasing activities in C1 (mashreq) are supervised through North Africa and Middle East (NAME) supply management director. He is responsible for the buying of the raw materials, packaging materials and non productive items for C1 Mashreq (as part of NAME). Under the NAME supply management director there are the NAME raw materials manager (chemical, oil and food ingredient), NAME capability and information manager, NAME packaging materials manager and NAME NPI (Non Productive Items) manager.

The NAME packaging materials manager is responsible for managing the packaging supply materials across NAME (including Mashreq). Purchasing activities and day to day management in C1 (mashreq) are undertaken by the assistant packaging material supply manager. He is responsible for negotiating terms, preparing buying contracts and developing relations with suppliers located in the Egyptian market. The assistant supply manager receives the company forecasts at the beginning of the year divided quarterly. He usually uses the annual purchasing forecast when negotiating the buying terms and contracts with suppliers. Generally, C1 suppliers receives the annual forecast at the beginning of the year followed by updated (each month) rolling forecast for the next three months.

The interviews in C1 were conducted in three days. The first interview was conducted with the NAME packaging material supply manager for around half an hour. He is responsible for managing buying operations of packaging material in North Africa and Middle East as well as supervising all the packaging buying operations within C1 Mashreq. He is reporting directly to NAME supply management director and the Assistant packaging material supply manager is reporting to him. The second and third interviews were conducted with the Assistant packaging material supply manager in C1 Mashreq for around 2 and half hour. He is reporting directly to NAME packaging material supply manager. He is responsible in managing buying operations within C1 Mashreq.

Partner relationship management:

The relation between C1 and its partners differs significantly in accordance to different classifications and segmentation criteria. C1 is segmenting their suppliers into local, regional and global suppliers. Local suppliers are those supplying Mashreq; regional suppliers are supplying NAME while global suppliers are supplying several C1 sites worldwide.

C1 is further segmenting its suppliers into 3 main clusters; gold, silver and bronze. Even within each cluster, suppliers are divided according to their strategic importance. The criteria for this classification can be summarized in the following points:

- How much money C1 spend with the supplier each year.
- What is the nature of the market complexity and constraints? Is he providing materials that any one can provide or he is the only provider?
- Is the supplier providing to only one C1 site or he is providing several sites?
- Are the supplies imported or exported?

In general, all joint activities undertaken between C1 and its partners depend upon this classification. The relation with bronze suppliers can be classified as a transactional relation (arm's length). The relation with gold and silver suppliers is close relation with different intensities. They share forecasts, information, undertake regular meetings and jointly participate in different activities. The main difference between gold and silver suppliers is that they don't undertake joint training nor they conduct joint technical assistance with silver suppliers. Even the intensity of collaboration in the gold cluster varies from supplier to another. This intensity is determined in accordance to the depth of the relation depending on the existing level of trust, the history between the two companies and the strategic importance of the partner.

Both interviewees acknowledged the importance of having social relationship with gold suppliers in order to improve the relation and maintain close, successful and productive business relations. It was noticed that the acknowledgement varies in intensity between the two managers. At a more senior level, the importance of personal and social relationships increases.

The relation between C1 and C2, the other partner in this dyadic relation, could be considered as close and collaborative. They started their business together nearly 15 years ago. Besides, C2 participated in C1 supplier development initiative 2 years ago. C2 is supplying 70% of the total C1 Mashreq consumption from the flexible packaging. This represents around 20-30 % from C2 total production capacity.

Initiating collaboration:

The first collaborative venture between C1 and C2 started in 2006 when C1 started its Supplier Development program. The program aimed to improve the performance of the suppliers that are of strategic importance to C1. C2 was classified as gold as C1 is buying from them with millions of pounds annually and they are supplying strategic material cluster that spans across all C1 product categories.

In general, top management commitment to collaboration is evident. The supplier development initiative undertaken by C1 (this initiative covers suppliers for both NAME and Mashreq) demonstrates C1 commitment towards building close relations with its suppliers. The interaction between C1 and its suppliers varies from sharing forecasts, joint training, joint investments and cost savings programs.

At the start up, C1 and C2 top management conducted a meeting and discussed their willingness to undertake close relation and C2's desire to participate in the supplier development initiative. C1 and C2 top management stated explicitly their willingness to undertake collaborative venture and build close relation with each other during this meeting.

The supportive business culture to collaboration in C1 is to a great extent clear. This could be inferred from the perception of both managers about the importance of collaborative relations. They identified that undertaking close inter-firm relations provide competitive advantage in terms of cost, quality, and availability of exchanging information internally and externally. All required information is placed on a shared system that they can easily access. They declared the high degree of transparency exchanging information between the different internal departments in C1. The supplier development initiative is another catalyst towards building collaborative culture within C1 staff. It represents a clear message from top management to C1 staff to pursue collaborative and open relations with their business partners.

Both interviewed managers acknowledged the role of trust between partners for collaboration to succeed. The essence of trust between C1 and C2 stems from the successful history of doing business together. The classification of C2 as a gold supplier reflects the existing trust from C1's side. The service that they received during the past 15 years amplifies this trust towards C2.

Features of the collaboration:

Generally, the market competition between C1 suppliers is severe. C1 is spending millions of US$ annually on purchasing their raw materials. They usually choose among variety of suppliers. Suppliers compete severely, based on cost, reliability and quality, against each other to supply C1 as this represents a good business opportunity to them.

The market competition that faces C2, from C1 point of view, is high. The reason for this is the simple nature of C2 production process and the fact that there are various suppliers offering the same products. In addition, the regional and global competition that C2 faces from other suppliers amplifies the competition. C1 have the opportunity to choose from among a variety of suppliers across NAME (some times across the globe). The trend going forward nowadays is that C1 exploit its power leverage through the high volume in purchases and undertake regional or global buying (especially for feedstock materials). They negotiate supply terms collectively, for multiple sites, with suppliers and hence exploit the high volume in getting better deals and prices.

Basically, C1 mashreq has few innovations in their process. All research and development activities are done by the mother company. Research in C1 mashreq basically focuses on the development and management of new packaging which fits more under the heading of exchange of critical information.

Regarding the differences in power, both managers admitted that power plays an important role in shaping business relations. Although they admitted that they are more powerful than C2, they explicitly mentioned that they never abused this power difference while managing their relations. They referred to their financial capabilities, the high volume of purchases and being as a principle customer to C2 as their sources of power. The assistant supply manager added that C2 would face lot of trouble if they moved their business to another supplier (which to a great extent easy task). The nature of the market dynamics and the availability of several alternative suppliers coupled with the absence of any innovation in C2's processes amplify this power difference. In addition, the high reputation of C1 and the willingness of suppliers to be part of C1 supplier's network strengthen the power dominance of C1.

From the other hand, C1 assistant supply manager identified that they prefer to localize their packaging supplies, as much as possible, even if it sometimes costs more (i.e. from the Egyptian market). This provides reduction in the needed stocks and hence reduces the working capital. He added that C2 is the best local supplier and that they faced several reliability and quality related problems when they switched to another local supplier. This bad experience led C1 to be committed and willing to create win-win partnership with C2.

Although there is a clear power difference between the two partners, these interrelated factors lead C1 develop interdependence relation with C2. Generally, both managers mentioned that creating win-win situations with business partners is the best way in maintaining good business relations.

When discussing the sources of power with the both managers, they declared the size of the business, name and reputation of the company, total sales volume, and the degree of dependency between businesses partners are major determinants for power.

Partners' joint interactions:

C1 and C2 undertake some joint activities together. The joint activities comprise the exchange of technical teams and the assessment for the performance. C1 assigned and participated with third parties consultants to conduct gap analysis to C2, identify their weaknesses and prepare closure programs to overcome these weaknesses. They are currently performing regular audits to ensure the progress of these programs and the degree of their effectiveness.

The cost model developed between C1 and C2 reflects both sides top management commitment to have close relation with each other. They developed a cost model to automatically calculate C2 selling prices to C1. The cost model comprises the commodity price, conversion cost, logistics cost and C2's profit margin. With every increase or decrease in the commodity price, the cost model automatically changes the selling price without any further negotiations.

C1 and C2 don't prepare any joint forecasts or joint promotions. This will not provide any improvements in the forecast accuracy. The two companies are totally away from each other markets and preparing forecasts together will not add much to the relation. Instead, C1 shares its annual forecasts with C2 followed by updated rolling forecasts every month.

Although C1 has an IT system that facilitates exchanging information internally between different functions and externally with suppliers, there is no IT link between C1 and C2. C1 IT system allowed them to implement Vendor managed inventory (VMI) with some of its gold and silver business partners, but they didn't show willingness to implement this system with C2. The main reason behind this is simple nature of the industry and the short lead time in C2 which sometimes reach 4 or 7 days. Besides, the insufficient IT capability of C2 decreased the chance of having any IT linkage.

C1 is currently managing its relation with C2 through the regular reports and meetings undertaken on monthly basis. All collaborative tools (VMI, CPFR, and CR) are not used while managing the relation between both sides. Although there are no collaborative tools or IT access used for collaboration, the current relation between C1 and C2 is quite convenient. In addition, there is no intention from C1 side to apply any form of IT linkage with C2. They think that using IT linkage will not provide better results, at least for the time being.

The management process undertaken between the two parties includes managing the performance of the relation. During the regular meetings, they discuss the performance of their relation through several pre-defined KPI's comprising delivery, quality and customer service.

Both managers acknowledged the importance of setting joint performance to their relation with C2. They developed the CCFOT (customer case fill on time) as a start-up KPI for measuring the relation. This includes measures for customer service, cost, quality, stocks, delivery time and quality. They use this to identify loss areas and work on improvements. This is followed by analysis, incorporating the loss tree, focusing on the major loss to eliminate. The aim behind this is to identify opportunities for improvement and to discover any cost saving opportunities.

Summary and comments:

It can be seen that C1 Mashreq acknowledges the effective role of collaboration in business success. C1 appreciate that having close relations with their strategic suppliers will allow for significant savings and hence improve their competitiveness.

With the aim of improving their suppliers and building close relations with them, C1 started its development program, supplier development initiative. This initiative reflects top management awareness and commitment to collaborative business relations. At the start-up of this initiative, they classified their suppliers as gold, silver and bronze, with gold suppliers as the most important suppliers to C1. Gold suppliers are characterized by being those that C1 spend lot of money with them annually and those whom are fully trusted by C1.

C2 was classified as a gold supplier as they are fully trusted by C1. They are considered as a key supplier to C1 as they are supplying 90 % of the total C1 consumption from flexible packaging. The ability to provide good and reliable service for around 15 years allowed trustful relation to exist.

The prevailing business culture in C1 supports the existence of collaborative environment. The current IT system that allows exchanging information internally and externally provides the suitable platform needed for collaboration practices to succeed.

The prevailing business culture in C1 supports the existence of collaborative environment. The current IT system that allows exchanging information internally and externally provides the suitable platform needed for collaboration practices to succeed.

The power relation with C2 seems to be more skewed towards C1. C1 is a multinational company with good financial situation and high reputation. This provides them with considerably high power when dealing with suppliers as they represent good business opportunity for them. Besides, the ability of C1 to provide its suppliers with development programs and their ability to develop new suppliers (although it will take time) puts them in better power position. Yet, C1 never exploited such power difference while managing its relations with suppliers. The good personal and social relations that they have, and are keen to build, with their suppliers clearly demonstrates the wise use of that power. The limited room for innovation in C1 Mashreq allowed smooth exchange of information with suppliers and eradicated any complexities while exchanging information.

The good relation with C2 provides a clear evidence for C1 commitment to build close relation with strategic suppliers. C2, the second partner in this dyad, is facing high competition with other local and regional suppliers to gain business with C1. C2 is fully trusted by C1 having provided good and reliable service for around 15 years. The tendency from C1 side to localize the packaging supplies, amplified the opportunity for C2 to have close relation with C1. These interrelated factors led C1 create win-win partnership with C2.

Generally, C1 was able to create successful and sustainable business relations with its strategic partner, C2, and exploited this partnership for the sake of both partners' mutual success.

Section 2 (C2):

Introduction:

C2 is an Egypt-based company engaged in the production, manufacture and printing of packaging products especially multi-layer cardboard, paper and plastic owned by mainly 3 shareholders. The owners started their business on 1984 when they established El Amria factory for printing and packing. In 1993, they decided to establish C2 Company that comprises up to date printing equipments.

The total sales for C2 were around 20 Million Egyptian pounds during year 2008. C2 organization chart is not available. The manager director identified that they consider the chart as confidential.

The responsibility for the sales and marketing activities split between the sales manager and the plant manager. The sales manager, under full supervision from one of the managing directors is responsible for managing all customers' relations. As the company is considering C1 a strategic customer, they assigned the plant manager, under full supervision of the other managing director, to handle and manage C1 account.

Recently, C2 started to receive C1 annual forecast and prepare their production schedules in accordance. C1 annual forecast is followed by rolling forecasts for every month to update their annual forecast. This provides the opportunity for C2 to shorten its lead time as much as possible.

The interviews in C2 were conducted in one day with the managing director and the plant manager. The first interview was conducted with the managing director for around 45 min. He is responsible for developing the company strategies and the follow up for the day to day work. In addition, he is responsible for managing and maintaining the relation with C1. The managing director is reporting to the board of directors. The plant manager is directly reporting to him. The second interview was conducted with the plant manager for around 1 and half hour. He is responsible for managing all the day to day operations with C2 as well as managing the day to day business with C1. Deputy plant manager, production manager and head of quality department are directly reporting to him.

Partner relationship management:

Basically, the relationship between C2 and its partners can be classified as a transactional relationship. They generally deal with their customers case by case. Normally, customers come back because of the consistent and high quality service they receive.

In specific, the relation between C2 and C1 can be classified as strong, close and intimate. The Managing director referred to the good relation with C1 regional packaging materials supply manager as an important factor in having such good and close relation. He acknowledged the importance of personal relationship in having successful business relations

The managing director identified C1 as their strategic partner. C2 and C1 business relation extends over a period of more than 15 years. They are considered as a key supplier to C1 as they are supplying 60-70% of the total C1 consumption from flexible packaging. This represents 30-40 % from C2 total production capacity.

Initiating collaboration:

In general, C2 top management commitment towards having close business relation with C1 is evident. This commitment was demonstrated by the managing director handling all the business operations with C1 by himself. He identified that he attends and participates in all meetings with C1 purchasing manager with the aim of ensuring that C1 is getting consistent, reliable and high quality service. Besides, the plant manager identification that C1 is a strategic customer that they have to keep him always satisfied reflects the commitment to have good relation with C1. The participation with C1 in the supplier development initiative, as strategic local supplier to C1, expresses the top management commitment towards collaboration. In addition, it conveys clear message to all C2 staff members that the company is totally committed to the relation with C1 and acts as a catalyst towards building collaborative culture.

The managing director and the plant manager identified that they are in continuous effort in the pace of developing collaborative business culture at C2. The managing director and the plant manager identified clearly that the relation with C1 is of a crucial importance to C2. They are continuously trying to direct the shop floor attention to the importance of C1 through continuous monitoring and advice. In addition, they provide awareness sessions to all the staff members to build supportive culture to having close relation with C1.

The essence of trust between C2 and C1 stems from the long successful history of their business relation. Their perception about C1 that they provide assistance to their suppliers reflects the level of trust and the willingness to keep the relation intact. They added that C1 usually invest time, money and different resources to develop their suppliers and is always trying to create win-win partnerships with its key suppliers.

Features of the collaboration:

The market competition that faces C2, from both managers point of view, is high. C1 as a large customer with considerable amount of purchases coupled with their ability to provide development programs to their suppliers amplifies the competition between suppliers in their pace to be part in C1 suppliers network. The market is full of large and small players that compete severely based mainly on price, quality and reliability. Generally competitors are providing the same service with considerably good quality. They referred to their competitive selling prices besides to the high quality, reliability and consistent service that they provide as the main drivers for their high competitiveness. These conditions were able to manipulate the market competition effect and provided the opportunity to build strategic partnership with C1.

The R&D activities in C2 operations are very limited. They receive the design from C1 and their major role is focused on doing the printing job and the packaging materials for C1.

C2 managing director and plant manager admitted that power plays an important role in shaping business relations. They distinguished possession of power from the use of that power. They identified that although C1 is more powerful than them, they never exploited this power difference. They are always trying to build win-win partnerships with them.

When discussing the sources of power with the C2 plant manager, he declared the size of the business, degree of dependency between business partners, availability of alternatives, are major determinants for power.

Partners' joint interactions:

The current relation between C1 and C2 is quite convenient from C2 top management point of view. Both managers identified that the relation is ideal, successful and productive. C2 managing director and plant manager identified that they undertake several activities with C1 centered on technical support and regular staff visits. C1 conducts technical visits (every three month) by their production and quality control teams to C2 with the aim of helping C2 to improve their operational capabilities and competencies and hence smoothing the workflow. Similar visits to C2 staff are conducted to visit C1 sites to understand C1 requirements and needs. In general, the aim behind the technical visits is to fully understand each other operations and to increase the appreciation of each other role in the success of the business. This also provides good opportunity to develop good relationship between C2 and C1 staff members.

Both companies jointly developed a cost model to automatically calculate C2 selling prices to C1. The cost model comprises the commodity price, conversion cost, logistics cost and C2 profit margin. With every increase or decrease in the commodity price, the cost model automatically changes the selling price without any further negotiations. The cost model between C1 and C2 can easily reflect the top management commitment to collaboration.

The regular meetings and the technical visits undertaken between C1 and C2 operations team show the commitment towards closer relations with each other. In addition C2 top management readiness to be more open and disclose all its critical information to third parties consultant, assigned by C1, conveys a clear commitment to close and strategic relationship with C1

Despite the close relation between C2 and C1, they aren't any joint forecasts or joint promotions in place. The reason for this is that any joint activity will not provide any improvements in the forecast accuracy and will not add much to the relation. Both companies are totally away from each other markets and preparing forecasts together will not add much to the relation.

Generally, C2 managing director and plant manger identified that there aren't any obstacles for sharing information from both sides. C2 doesn't suffer from lack of information or absence of transparency from C1 side. They both assured that they never hide any information from C1. They usually exchange information through regular weekly meetings, e-mails and telephone calls.

The IT capabilities at C2 are very limited. They don't have any IT infrastructure that can be used to improve the relation. This makes the opportunity of exploiting IT connections very limited. Although the plant manager acknowledged the importance of having IT linkage (both internally and externally with C1), up till now there are no serious steps taken to install IT systems.

The relation between the two companies is currently managed through regular monthly meetings and regular reports. They exchange all the required information during these meetings. C2 prepares weekly report to C1 identifying the state of their raw materials and the products ready for dispatch. All collaborative tools (VMI, CPFR, and CR) are not used while managing their relation. Although there are no collaborative tools or IT linkage used for managing their relation, the current relation between C1 and C2 is quite convenient. C2 managing director identified that the relation is ideal, successful and productive.

The two partners are measuring the performance of the relation with some joint measures. C1 developed the CCFOT (customer case fill on time) as the main KPI to measure the relation with C2. During the regular meetings, they discuss this KPI, rolling forecast, capacities and deliveries and all the associated difficulties during the previous month.

These measures include customer service, cost, quality, stocks. Although the measures are developed by C1 solely, C2 are quite satisfied with these measures. They identified that these measures are able to provide a clear picture for the deficiencies in the relation and analyze the main reasons for these deficiencies.

Summary and comments:

C2 top management showed clear appreciation to the role that collaboration plays in providing competitive advantage to collaborating partners. C1 account generates millions of pounds that are worthy to maintain. They represent around 40 % from C2 total annual sales. The participation in the supplier development program shows C2 top management commitment to keep the relation with C1 close and good. It also reflects top management awareness and appreciation to what collaboration practices can bring.

The long history and the ability of C1 to develop win-win relations with them allow trust, from C2 side, to nourish. Although the current collaborative business culture in C2 still immature, the top management is trying to overcome this through continuous development programs.

The limited room for innovation in C2 allowed smooth exchange of information (bypassing the problem of the business culture) with C1 and eradicated complexities while exchanging information.

Although the market competition is severe, the ability of C2 to provide and maintain high quality products and reliable service to C1 enabled them to manipulate the market competition.

Although, C2 deals with its customers in a fairly traditional way, they were able to successfully deal with C1 collaboratively. The current relation between the two partners is quite convenient for both parties and they are both willing to maintain such relation.

Appendix IIID

CASE STUDY REPORT

D1-D2

Overview:

This research project focuses on business partner's relationship within supply chains. The research unit of analysis is the dyadic relationship between business partners in supply chains. This means that the relation will be assessed from both view sides of business partners.

The following report summarizes the information gathered from face-to-face interviews with two supply chain partners representing a dyadic relationship in one of the pharmaceutical supply chains. The report will be divided into two main sections. The first section will cover the interviews conducted by the researcher with the first company representatives. The other section will cover the interviews conducted by the researcher with the other company representatives.

D1 with one of its business partners, D2, was selected to assess their dyadic relationship. The reason behind this selection is the close relation between the two companies. The first company, an SME operating in UK, is considered a high tech company. The expenditure on R&D represents around 20 % from the total annual sales. The second company could be considered a large company (500 employees) operating in UK, is also considered a high tech company.

Company Name	Interviewee Position	Date of the interview	Interview Duration
D1	Operations Director	2/11/2009 10/11/2009	2 hrs
D2	Continuous Improvement Manager	2/11/2009	90 min

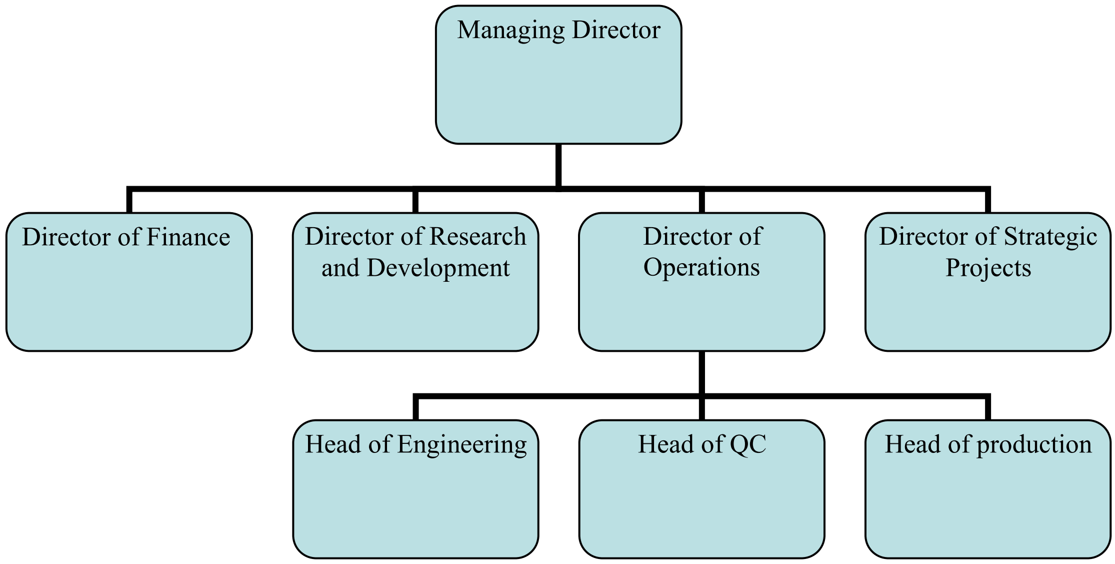
Section 1 (The first company):

Introduction:

D1 is an established and successful company first set up in the west of Scotland, in East Kilbride, in 1986. In 1993, D1 became a wholly owned subsidiary of a US based Biopharmaceutical Company. The company's objective is to develop, manufacture and license pharmaceutical products based on patented drug delivery technologies.

D1 currently employs around 65 people, about half of whom are involved in research and development. The company workforce contributes skills in formulation, analytical and process development, the management of clinical studies on a worldwide basis, as well as manufacturing and quality. D1 develops proprietary products for the pharmaceutical market, based on its own, unique drug delivery systems. They interface with the regulatory demands of governments, and these skills have already resulted in one product that has been successfully developed, registered and launched around the world. Company current products comprise a human birth induction system which has already sold more than three million units in 48 countries worldwide. The company has commercialised its polymer drug delivery technology that is capable of providing controlled release of a range of drug molecules over periods up to 24 hours.

D1 organization chart is as follows:



All the purchasing activities are managed by the Operations Director. She is responsible for all the company operations from material procurement to the distribution of the product.

The first interview in D1 was conducted with the Operations Director. She is responsible for, procurement of materials, production, QC, distribution, and health and safety. The operations Director report directly to the Managing Director of the company. Head of QA, QC, Engineering and Production are reporting to the Operations Director. The interviews were held in 2 day for around 2 hrs.

Partner relationship management:

Generally, the relationship between D1 and its partners is considered close. They are trying to build close business relations with their suppliers and customers. The operations Director identified that they have partners all over the world and that even for the marketing of the product; they usually depend on their marketing partner for the distribution. This highlights the importance of having close relations with partners. Besides, the Strategic Projects Director is responsible for building and fostering close relationships with marketing partners.

The relation between D1 and D2 could be classified as close and collaborative relation. The relation extends over a period of 15 years of successful and productive business results. At the start-up of their relation, they worked jointly to develop a usable retrieval system device for D1 drug delivery system.

The Operations Director acknowledged the importance of having good personal relationships with partners. She highlighted the importance of good relation for long term business relations and for better successful business results.

Both companies signed a supply agreement and non-disclosure and confidentiality agreement to guarantee the smooth flow of information. The supply agreement details the minimum quantities to be manufactured to D1, selling prices, costing structure based on volumes, quality aspects, IP rights…etc. D2 provides D1 with

100% of its needs from the retrieval device. This represents around 70-80% from D2 total sales in the non vascular category.

Initiating collaboration

The relation between D1 and D2 started when they jointly developed the retrieval device for CT drug delivery system. The nature of this project and the associated high level of interaction required by this project allowed for the establishment of close and collaborative relation between both companies.

The Operations Director acknowledged the importance of working closely with partners; especially strategic suppliers. From her point of view, collaborative approach is the best way to make a successful business relationship.

Top management commitment to collaboration is evident. This commitment stems from the fact that D2 is a crucial supplier to D1 and that D1 will not be able to operate without D2 retrieval device reflects the nature of the relation. Commitment was demonstrated by the reciprocal technical assistance, joint training and the sharing of future plans and directions. Technical assistance allowed the exchange of technical teams to build awareness of both sides' business processes. People from D1 go to D2 and spend some time to see the retrieval device being manufactured and visa versa. In addition, D1 invited D2 to participate, as material supplier; in Kaisen continuous improvement project that aimed to improve the filling process of D1. Top management commitment was further reflected in the intention to jointly investigate improvement opportunities to the production process of D1 and D2.

The joint participation with D2 in developing the retrieval device was the first trigger to build trust and collaborative culture in both sides. The project allowed acknowledging the role of each other, the importance of having close relations, and how collaborative work yielded good results. The nature of D1 products (existing and potential) necessitates continuous R&D efforts which in turn dictate having collaborative efforts with Universities and other organizations. This helped in developing company wide appreciation to the collaborative interactions in the success of developmental efforts. Besides, D1 top management are continuously engaging its work force in cross functional improvement teams which further allowed for the establishment of collaborative culture and highlighted the importance of sharing and circulating information.

The Operations Director identified the relation as close, deep and full of mutual trust. She highlighted the role that previous successful history and the consistent and reliable service that D2 provides played in building trustful relation with them. Besides, the good personal relationship with D2 allowed for nurturing mutual trust between the two companies.

Features of the collaboration

The effect of the market dynamics over D1-D2 relationship is minimal. The fact that D1 is the only customer to D2 retrieval device and that D2 is the only supplier to the retrieval device eradicates any effect of market dynamics over the relation. In addition, both sides are legally bounded by legal purchasing contract and IP rights. The contract regulates both sides' business interactions and identified that D2 is not allowed to sell the retrieval device to any other company without prior acceptance from D1. From the other side, D1 can not buy the retrieval device from any other supplier without prior acceptance from D2.

The effect of R&D over D1-D2 business relation is weak. The two partners worked jointly and closely to develop the retrieval device. Besides, any improvement effort in any one company that may affect the operations of the other is developed jointly. D1 Operations Director identified that any improvements or new ideas for improvements should be discussed with D2 first because they may make changes and it does not fit in their production machines or we can make changes that does not match with their retrieval device. In addition, the two companies signed IP agreement and confidentiality agreements that make the disclosure of information between them quite secured. The fact that D2 is the only supplier to D1 and D1 is the only customer eliminate the fear of disclosure of confidential information; hence allowing for better opportunity to share any information. Besides, the retrieval system was jointly developed from day one which leads to better opportunity to share information between them. The Operations Director highlighted that they usually share any thing with D2 and visa versa. The perception of the Operations Director is that D2 usually share every thing about future plans and improvement programs with them. The recent trials of D1 to automate some of their process, and the discussion between the two sides about this project reflect the high degree of openness even with the exchange of strategic development information. She added that exchanging critical information didn’t represent a problem at any time and if there is an issue needs to be resolved, any information could be shared.

Regarding the differences in power between partners, the Operations Director admitted that power generally plays an important role in shaping relations. Although power is skewed towards D2, they have never suffered from this power difference, the Operations Director identified that D2 never used this power difference. She referred to the relation as a totally interdependent relation. The nature of the market and being the sole customer to D2 helped for interdependence relation between them to occur.

Partners' joint interactions:

Despite the close relation between D1 and D2, they undertake few joint activities. It was identified that no joint forecasting is in place. From D1 operations Director point of view, joint forecast will not improve its accuracy; D2 are totally away from the pharmaceutical market and they actually have no access to the market information. Instead, they usually have joint planning for any changes in operations or the functionality of the product.

There is no IT link between D1 and D2 as D2 generally has no IT linkage with any of its customers. In addition, the fact that D1 is manufacturing only one product makes any form of IT connection infeasible.

In general, the Operations Director identified no barriers when dealing with D2. They are providing CT with all the required information at any time they ask for it. On the other side, they usually receive the information that they need on the right time.

Top management generally undertake occasional meetings. They consider the relation as stable and regular meetings will not add much to the performance. From the other side, the Operations Director identified that there are interactions between the different departments in D1 and D2 any if any problem arises they contact each other directly.

Although there are no collaborative tools or IT access used for collaboration, the current relation is quite convenient from D1 Operations Director point of view. Besides, she highlighted the willingness of D1 to have more joint cooperation and development projects with D2.

D1 operations Director identified that there is no joint performance measures in place. In stead, each company measures the performance based on its own measures. These measures comprise measures for delivery time, quantity and quality.

The Operations Director identified that the current relation is providing good business results for both sides. She perceives the relation as ideal and productive and that the current state of exchanging information and the way of doing business are quite satisfactory.

Summary and comments:

It is clear that D1 top management acknowledges the role that collaboration plays to make their business grow. The joint development of the retrieval device allowed for high appreciation to collaborative business relations. It also allowed for the establishment of supportive culture to collaboration. This project coupled with the successful history with D2 allowed trustful relation to occur between D1 and D2.

D1 and D2 business relation could be identified as broad, close and deep. The high quality and reliable service that D2 provided over a number of years allowed the development of this close relation. Currently, they are buying 100% of their retrieval device from D2.

The relation between the two partners could be seen as interdependence relation. The fact that D1 and D2 developed jointly the retrieval device and there is an IP agreement between them being as well as D2 being the only manufacturer of the retrieval device and D1 as the only producer of the medicine diminished the effect of the market dynamics and innovation over the relation.

The supply agreement between D1 and D2 played significant role in shaping their relation. They have signed an agreement that any party needs to dismiss the relation or to switch to another supplier or even dual supply (from D1 side) or sell to another customer (from D2 side) have to get acceptance from the other side.

Generally, the relation between D1 and D2 could be seen as quite close relation that is producing acceptable results to D1.

Section 2 (D2):

Introduction:

D2 is a global company with operations in more than 80 countries. It is one of the world's leading designers, manufacturers and marketers of vascular prostheses, which are used worldwide by vascular and cardiovascular surgeons in the treatment of aneurismal or occlusive arterial disease. At present, over 90% of production is exported.

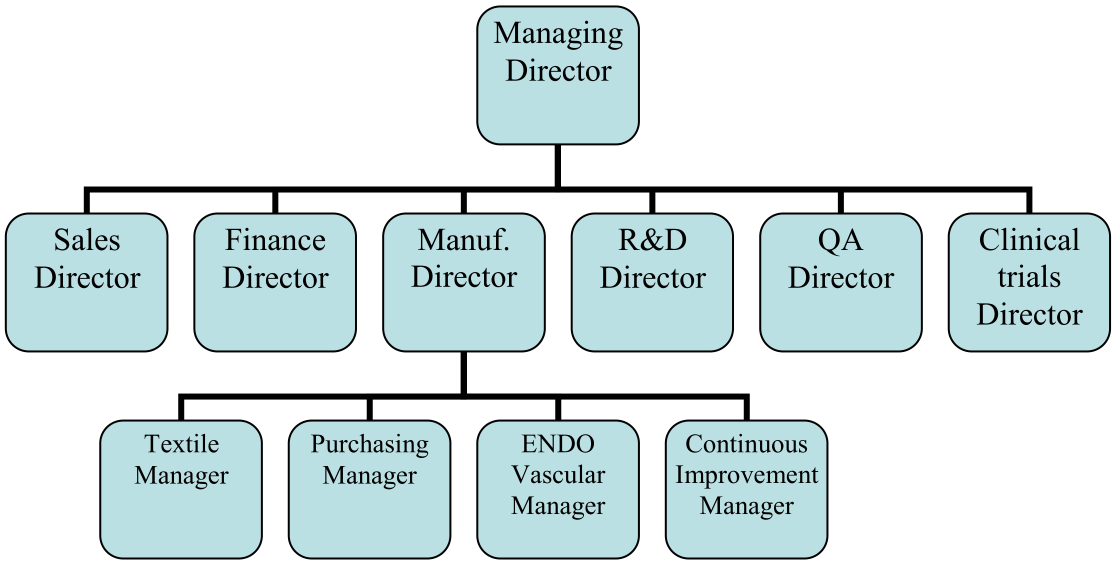
D2 has two main categories of products; vascular craft (95%) and non-vascular craft (5%). These products are internationally recognized for their high quality and innovative design.

D2 currently employees around 500 people of which 250 are working in the manufacturing process. The others are working in sales, marketing, distribution, QA and manufacturing engineering.

D2 was founded in 1984, in Glasgow UK originally owned by a thread manufacturing company in Paisley. Later, the company was sold to a heavy industry manufacturer of pumps and marine engines in Switzerland. In 1992/1993 D2 ownership was moved to a Japanese company, a large Japanese medical devices manufacturer. Three years ago, D2 bought another site in Leeds that operates in manufacturing of biological heart valves.

Basically, the Japanese company operates an R&D centre with around 1200 people to conduct researches and new products developments. D2 as well works closely with customers in a continuous process of new products development through employing 30 employees that work in R&D.

The D2 organization chart is as follows:



All sales and marketing activities are managed and supervised by the Sales and Marketing Director. He prepares the annual forecast, jointly with the Finance Director, for both the local and exporting markets (except for US market). The forecast is prepared based on D2 customer's forecasts. They usually arrange with all customers (long term and new customers), to get visibility of their expected needs during the coming period.

The interview in D2 was conducted with the Continuous Improvement Manager. He is responsible for managing all OEM business relations as well as building close relations with customers. He is reporting directly to the Manufacturing Director. The interview was held in 1 day for around two hours.

Partner relationship management:

In general, D2 is trying to build close relations with its customers. The Continuous Improvement Manager identified that developing new products is an important part of their business hence; it's crucial to have close relationship with customers to successfully develop the new product.

In particular, the relation with D1 can be classified as close and collaborative relation that extends over a period of 15 years. At the start-up of their relation, they worked closely to develop a process that yielded a usable retrieval system device for D1 drug delivery system.

The continuous Improvement Manager acknowledged the importance of having good personal relationships with partners. He identified that good relation in business allows for better successful business results and provides the opportunity to build long term business relations.

Both companies signed a supply agreement and non-disclosure and confidentiality agreement to guarantee the smooth flow of information. The supply agreement details the minimum quantities to be manufactured to D1, selling prices, costing structure based on volumes, quality aspects, IP rights…etc. D2 provides D1 with 100% of its needs from the retrieval device. This represents around 70-80% from D2 total sales in the non vascular category.

Initiating collaboration:

The start-up of the relation between D2 and D1 was when both sides committed resources to jointly develop the retrieval device for D1. This joint work allowed for the establishment of close and collaborative relation between them.

The Continuous Improvement Manager acknowledged the importance of having close working relations with customers. He identified that working closely and in early stages with customers help to understand their needs and help in making compromises between what D2 can make and what customer need till they manufacture a device that fulfils customer's needs. From his point of view, collaborative approach is the only way to make a successful relationship otherwise, customers will ask for something and D2 will simply say we can't.

Top management commitment to collaboration is evident. It was demonstrated by the reciprocal technical assistance, joint training and the sharing of future plans and directions. Technical assistance allowed the exchange of technical teams to build awareness of both sides' business processes. People from D1 go to D2 and spend some time to see the retrieval device being manufactured and visa versa. In addition, they participated, as material supplier, with D1 in Kaisen continuous improvement project to improve the filling process of D1. Top management commitment was further reflected in the intention to jointly investigate improvement opportunities to the production process of D2 (not exclusively the retrieval system production) and make it more efficient to cope with any increase in demand.

The joint participation with D1 in developing the retrieval device was the first trigger to build trust and collaborative culture in both sides. The project allowed acknowledging the role of each other, the importance of having close relations, and how collaborative work yielded good results. In addition, the nature of D2 process allows for supportive culture to occur. D2 could be seen as an R&D oriented company; part of D2 operations requires close relation with customers as they usually participate in customer's products development projects. The perception of the Continuous Improvement Manger that almost all their projects require having close relations with customers reflects the prevailing business culture in D2.

In addition, top management are continuously trying to build supportive culture through providing some training programs. They usually provide training on customers products to let them better understand and appreciate D1 products. In addition, D2 sometimes presents videos to employees to understand what D1 products looks like in its final form to appreciate the importance of the product.

The Continuous Improvement Manager perception is that the relation is close, deep and full of mutual trust. He identified that trust building is related to relation performance. The consistent and reliable service that they provided to D1 during their business relation played significant role in building trustful relation between both sides. The personal relations and the previous successful history between the two companies allowed for quite acceptable levels of trust in the relation.

Features of the collaboration:

The effect of the market dynamics over D1-D2 relationship is negligible. The main reason is that they jointly developed the retrieval technology and they are bounded by legal purchasing contract and IP rights. Besides, D2 is the only supplier for D1 since they have the manufacturing technology of the retrieval device. From the other side, D1 product is unique and is the only product of its type in the market. Hence there are no other customers for D2 for the retrieval device.

When discussing R&D and its effect over their relation, D2 Continuous Improvement Manager identified that they generally work closely with D1. They usually share information with them freely. He identified that any improvements or new ideas for improvements should be discussed with them because we may make changes and it does not fit in their production machines or at least it may need additional approvals. In addition, the two companies signed IP agreement and confidentiality agreements that make the disclosure of information between them quite secured. The nature of the market allows for better opportunity to share any information as they are the only supplier and D1 is the only manufacturer. Besides, the retrieval system was jointly developed from day one which leads to better opportunity to share information between them. He highlighted that they usually share any thing with D1 and visa versa. He identified that D1 share every thing about future plans and improvement programs. He gave an example with D1 recent trials to automate some of their process, he identified that D1 discussed this project with them but this doesn't mean that they should share the exact details of the automation; as this is irrelevant. He added that exchanging critical information was not a problem at any time and if there is an issue needs to be resolved, any information could be shared.

Regarding the differences in power between partners, the Continuous Improvement Manager admitted that power generally plays an important role in shaping relations. But, he identified that the power issue and the power game has no effect over their relation with D1. Although D1 is representing a relatively small amount of their sales, they are considering entering the pharmaceutical market as a strategic decision. In addition, he identified that power is the antitheses of successful business relations. Besides, the nature of the market and being as the sole supplier coupled with the consistent and reliable service that they provide to D1 allowed for interdependence relation to occur.

Partners' joint interactions:

Despite the close relation between D1 and D2, they undertake only some joint activities. It was identified that no joint forecasting is in place. From D2 Continuous Improvement Manager point of view, joint forecast will not improve its accuracy; they are totally away from the pharmaceutical market and they actually have no access to the market information. Instead, they usually have joint planning for any changes in operations or the functionality of the product.

There is no IT link between D2 and D1 as D2 generally has no IT linkage with any of its customers. In addition, he identified that CT is manufacturing only one product which makes any form of IT connection infeasible.

In general, the Continuous Improvement Manager identified no barriers when dealing with D1. They are providing him with all the required information at any time he asks for it. On the other side, they usually receive the information that they need on the right time.

Top management generally undertake occasional meetings. They consider the relation as stable and regular meetings will not add much to the performance. From the other side, Continuous Improvement Manager identified that there are interactions between the different departments in D2 and D1 any if any problem arises they contact each other directly.

Although there are no collaborative tools or IT access used for collaboration, the current relation is quite convenient from the D2 Continuous Improvement Manager point of view.

D2 Continuous Improvement Manager identified that there is no joint performance measures in place. In stead, each company measures the performance based on its own measures. These measures comprise measures for delivery time, quantity and quality.

The Continuous Improvement Manager identified that more collaborative relation with D1 will not enhance or improve the business more. He perceives the relation as ideal and productive and that the current state of exchanging information and the way of doing business are quite satisfactory.

Summary and comments:

The relation between D1 and D2 extends over a period of more than 15 years representing a good close relation success story. The relation could be seen as peculiar relation.

The start-up of their relation was when they participated in the development of the retrieval device for D1 drug delivery system. This project reflects the commitment and allowed the two sides to work collaboratively and this in turn allowed trust and collaborative culture to exist in both sides. In addition, D2 is an R&D oriented business which in turn provided the grounds for undertaking close business relations with almost all of their partners. Although D1 business represents small amount from D2 total business, they are considering entering the pharmaceutical market as a strategic objective; hence trying to have close relation with D1.

The fact that D2 being as the only manufacturer of the retrieval device and D1 as the only producer of the medicine diminished the effect of the market over the relation. In addition, it allowed the creation of a clear interdependence relation. This is further heightened by the fact that they jointly developed the retrieval device and there is an IP agreement between them. In addition, the supply agreement and the confidentiality agreements between them allowed for the creation of interdependence relation and smoothen the exchange of information between them. Besides, it is explicitly mentioned in their agreement that if D2 dismissed the relation for whatever reason, they should help D1 find another supplier and train that supplier till being able to deliver D1 with the same level of quality.

Generally, the relation between D2 and D1 could be seen as quite close relation that is producing acceptable results to D2.

Appendix IIIE

CASE STUDY REPORT

E1-E2

Overview:

This research project focuses on business partner's relationship within supply chains. The research unit of analysis is the dyadic relationship between business partners in supply chains. This means that the relation will be assessed from both view sides of business partners.

The following report summarizes the information gathered from face-to-face and telephone interviews with two supply chain partners representing a dyadic relationship in one of the pharmaceutical supply chains. The report will be divided into two main sections. The first section will cover the interviews conducted by the researcher with the first company representatives. The other section will cover the interviews conducted by the researcher with the other company representatives.

E1 with one of its business partners, E2, was selected to assess their dyadic relationship. The reason behind this selection is the close relation between the two companies. The first company, an SME operating in UK, is considered a high tech company. The expenditure on R&D represents 20 % from the total annual sales. The second company, a large company operating in UK, is also considered a high tech company. The innovation in E2 is centred on new designs for cartons and leaflets. It is difficult to identify clear number for expenditure in R&D as they work directly with customers in creating the new ideas and designs.

Company Name	Position	Date of the interview	Interview Duration
E1	Operations Director	2/11/2009 10/11/2009	45 min
E2	Key account Manager	2/11/2009	45 min

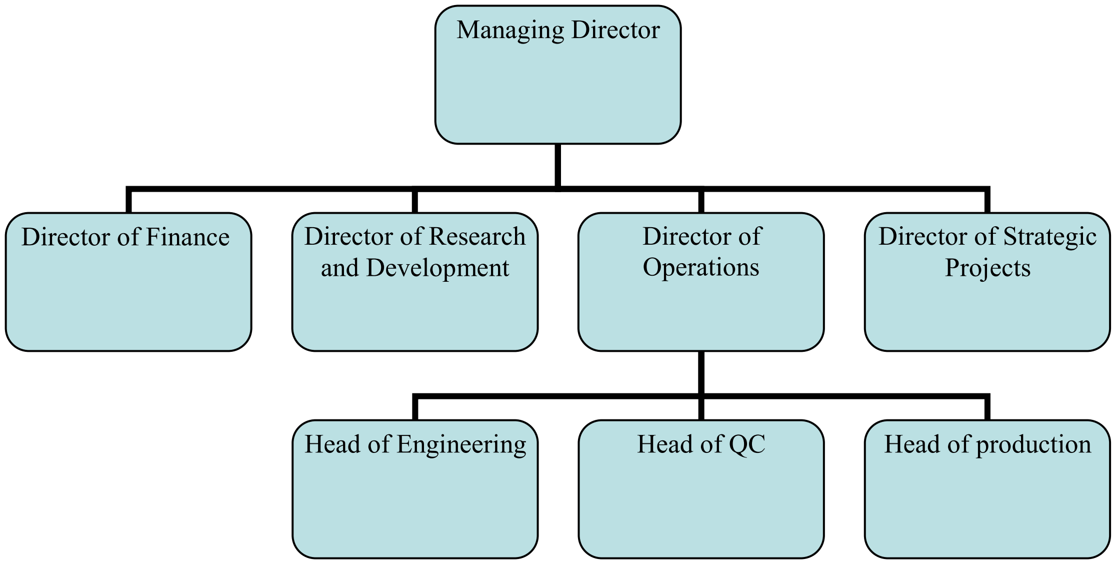
Section 1 (The first company):

Introduction:

E1 is an established and successful company first set up in the west of Scotland, in East Kilbride, in 1986. In 1993, E1 became a wholly owned subsidiary of a US based Biopharmaceutical Company. The company's objective is to develop, manufacture and license pharmaceutical products based on patented drug delivery technologies.

E1 currently employs around 65 people, about half of whom are involved in research and development. The company workforce contributes skills in formulation, analytical and process development, the management of clinical studies on a worldwide basis, as well as manufacturing and quality. E1 develops proprietary products for the pharmaceutical market, based on its own, unique drug delivery systems. They interface with the regulatory demands of governments, and these skills have already resulted in one product that has been successfully developed, registered and launched around the world. Company current products comprise a human birth induction system which has already sold more than three million units in 48 countries worldwide. The company has commercialised its polymer drug delivery technology that is capable of providing controlled release of a range of drug molecules over periods up to 24 hours.

E1 organization chart is as follows:



All the purchasing activities are managed by the Operations Director. She is responsible for all the company operations from material procurement to the distribution of the product.

The first interview in E1 was conducted with the Operations Director. She is responsible for, procurement of materials, production, QC, distribution, and health and safety. The operations Director report directly to the Managing Director of the company. Head of QA, QC, Engineering and Production are reporting to the Operations Director. The interviews were held in 2 day for around 45 min.

Partner relationship management:

Generally, the relationship between E1 and its partners is considered close. They are trying to build collaborative business relations with their suppliers and customers. The operations Director identified that they have partners all over the world and that even for the marketing of the product; they usually depend on their marketing partner for the distribution. This highlights their perception about the importance of having close and collaborative relations with partners. In order to maintain close relations with partners, E1 assigned the Strategic Projects Director to be responsible for building and fostering close relationships with marketing partners.

The relation between E1 and E2 could be classified as traditional customer-supplier relationship. Although the relation extend over a period of 5 years of successful and productive business results, the relation between them is based on an order by order transaction base.

The operations director acknowledged the importance of having good personal relationships with partners. She identified that good relation, in all business relations, allows for better successful business results and provides the opportunity to maintain business relations.

The operations director identified that E2 supply E1 with 100% of their needs from packaging materials. This represents a small amount from the total annual sales of E2 (around 1-2 % from E2 total annual sales).

Initiating the relation

The relation between E1 and E2 started when E1 identified E2 as an approved packaging, carton and leaflet supplier after an audit to E2's operations 5 years ago. The perception of the operations director is that the relation is successful, close and providing good results for both sides. She identified that E2 is providing them with high quality packaging products on time and in full.

Top management commitment to having close relation with E2 was discussed with the operations director in which she acknowledged that they are committed to maintain the relation with them. However, she identified that they are not willing to undertake any collaborative arrangement with them in the near future. Although she identified that E2 is a good supplier that provides reliable service, they wish to maintain the relation with them, and despite the importance of having close working relations with suppliers, she identified that they are quite satisfied with the current relation with E2. She highlighted that any collaborative effort will not provide better results and that the expected benefits from collaboration is not sufficient.

The previous successful business relation played important role in building quite acceptable levels of trust in E1-E2 business relation. The operations director identified that the reliable service that they receive helped in building trustful relation between them. She added that personal relations played important role in nurturing trust and helped in keeping the relation close.

The nature of E1 products (existing and potential) necessitates continuous R&D efforts which in turn dictate having collaborative efforts with Universities and other organizations. This helped in developing company wide appreciation to the collaborative interactions (close interactions) in the success of developmental efforts. Besides, E1 top management are continuously engaging its work force in cross functional improvement teams which further allowed for the establishment of collaborative culture and highlighted the importance of sharing and circulating information.

However, it could be identified that the lack of motive to have collaborative relation (absence of potential benefits) led to insufficient management commitment to undertake any collaborative arrangements between E1 and E2. Although the relation is characterized by trust and the presence of collaborative culture, the absence of returns and commitment makes them insufficient in establishing collaborative relationship between them. It could be identified that the presence of trust and this culture facilitates traditional business interactions and smoothen the relation between the two companies.

Features of the relation

This section intends to discuss the effect of power, innovation and market dynamics over collaborative relations intensity. It deemed invaluable to discuss these factors over the depth of the relation as the relation between E1 and E2 is considered a traditional customer-supplier relationship based on market dynamics rather than being a collaborative relation.

Partners' joint interactions:

This section originally intends to discuss the joint activities undertaken by partners in collaborative ventures. As previously mentioned, the relation between E1 and E2 is a non-collaborative relation hence; assessing joint activities will be with little value to the research.

Summary and comments:

Although top management acknowledged the role that collaboration plays to make their business grow, it could be identified that the absence of potential returns from collaboration hinders any opportunity to undertake collaborative arrangements in E1-E2 business relation.

Although the relation between E1 and E2 is characterized by trust and despite the presence of adequate culture that support collaborative efforts in both companies, collaboration does not exist. The absence of expected returns from undertaking any collaborative relation between the two sides led to the absence of top management commitment to collaboration. This led to inadequate collaborative opportunity and in turn inadequate collaborative readiness leading to weak collaborative potential.

Section 2 (E2):

Introduction:

E2 Company, part of a leading packaging group, is a leading packaging manufacturer of folding cartons and patient information leaflets for the pharmaceutical and healthcare industries.

The group is the UK's fastest growing packaging manufacturer and producing printed cartons for customers in both the food and pharmaceutical industries. The group is operating four manufacturing sites; one in Leicester, the group headquarter, another two in Newcastle and Gateshead for the food packaging while the fourth is in Crewe, for the pharmaceutical packaging.

Benson Group has been in the business of making packaging products for over 85 years, with its origins in servicing the Leicestershire shoe and hosiery industries. The market has evolved, as have the company's products, and as a result of continued investment in both people and plant, the company has grown to now achieve annual sales in the region of £85 million, with growth fuelled both organically and by acquisition.

The group creates packaging for many well-known companies, brands and retailers. Key account clients across the group include GlaxoSmithKline, Northern Foods, Reckitt Benckiser, Greencore, Bakkavor, and leading supermarket chains.

The business remains in private ownership, with today's Chairman, the company's founder, providing the vision and overall strategy for the business. E2 organization chart is not available. The Key Account Manager acknowledged that the organization chart is considered as confidential and there is difficulty in publishing it.

All sales and marketing activities are managed and supervised by the Sales and marketing manager of the group. Sales director in E2 is responsible for preparing sales forecast for E2 customers.

The interview in E2 was conducted with the key account manager. He is responsible for managing business relation with customers (including E1) as well as building close relations with customers. The interview was held by telephone in 1 day for around 45 min.

Partner relationship management:

In general, E2 is trying to build close and collaborative relations with its key customers. In particular, the relation with E1 can be classified as close relation that extends over a period of 5 years. The key account manager identified that the relation as a traditional customer-supplier relation in which they are an approved supplier to E1 and they are regularly audited by them.

The key account Manager acknowledged the importance of having good personal relationships with partners. He identified that good relation in business allows for better successful business results and provides the opportunity to sustain business relations.

The key account manager identified that they usually determine their selling prices per order and notify E1 with it; if they accept they produce their order in accordance to the agreed cost.

The key account manager identified that E1 account represents a small amount from the total annual sales of E1. He identified that they represent around 1-2 % from E2 total annual sales. He also identified that he is not sure whether there are other packaging suppliers to E1 or not and that he has no idea about how much they are supplying E1 from its total consumption from packaging materials and leaflets.

Initiating the relation:

The start-up of the relation between E2 and E1 extends over a period of 5 years of successful business relation. The relation started when E1 conducted an audit to E2 operation to add them in their approved suppliers list. Since then, the relation is progressing and the perception of the key Account Manager is that the relation is successful and providing good results for both sides. He identified that the relation with E1 is a customer-supplier relationship that involves supplying them with high quality products on time and in full. It should be noted that the relation between E1 and E2 is not collaborative relation. The main reason for this is absence of potential returns from undertaking collaborative efforts. The small amount of business interaction between them and the nature of the market dynamics (availability of several other suppliers) led to partners' decision to keep the relation as a market based transactional business relation.

Top management commitment to have close relation with E1 was discussed with the key account manager in which he acknowledged that they are committed to maintain productive but traditional relation with E1. He acknowledged the importance of having close working relations with customers and highlighted that top management in E2 is considering building close relations with customers one of its priorities.

The Key Account Manager identified that they have a yearly review meeting with E1. In addition E1 and E2 have an audit meeting every two years to review the performance of the relation.

The previous successful business relation played important role in building quite acceptable levels of trust in E1-E2 business relation. The key account manager identified trust as crucial for any customer- supplier business relation. He added that they trust E1 and identified that if they don't trust E1, they won't supply them. He also mentioned that the current mutual trust arise because they usually supply E1 on time in full and in turn E1 pay the bills on time. He also highlighted the role of the good personal relations with E1 management in building trust in their relation.

When discussing the role of organizational culture and its effect over the relation, the key account manager identified that generally the culture within E2 supports having close relation with customers. But he highlighted that E1 is not a big customer and that they only represent 1-2% of their total annual sales; hence they are more focused in exploiting this collaborative culture with their big customers.

Features of the relation:

This section intends to discuss the effect of power, innovation and market dynamics over collaborative relations intensity. It deemed invaluable to discuss these factors over the depth of the relation as the relation between E1 and E2 is considered a traditional customer-supplier relationship based on market dynamics rather than being a collaborative relation.

Partners' joint interactions:

This section originally intends to discuss the joint activities undertaken by partners in collaborative ventures. As previously mentioned, the relation between E1 and E2 is a non-collaborative relation hence; assessing joint activities will be with little value to the research.

Summary and comments:

The relation between E1 and E2 extends over a period of more than 5 years representing a good business relation. However, the relation between them is a non-collaborative relation.

Although the relation is characterized by trust and the culture is supportive to collaborative efforts, the inability to find benefits from collaboration as well as the absence of management commitment to collaboration led to this traditional business relation between E1 and E2.

It could be identified that the absence of potential returns led to insufficient collaborative opportunity. Consequently, the absence of returns from collaboration led to inadequate commitment hence, insufficient collaborative readiness. It could be identified that E1 and E2 has inadequate collaborative potential.