Titel /Title: Interorganizational relationships in project-based networks: Problems of Communication and Collaboration

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Abstract:

Purpose: Although under the last decade there has been increased interest in management of project-based teams and numerous examples of such relationships exist, relatively little is known about “the dynamics of shorter relationships”. Management of communication between partners involved in short-term project-based relationships and the ways, in which multiparty value is created as a result, form a task for important and necessary research in marketing theory and practice. This study aims to define whether there exists a positive relationship between management activities that can influence the communication environment within project-based groups and effectiveness of collaboration between participants.

Research question: In what role management incentives can positively influence communication and collaboration within a network of the external parties involved in a project?

Approach: The research design for this study includes a literature review and a longitudinal observational case study. The aim was drawing on and extending important ideas of research on organizational management of project-based teams. On the basis of literature review aspects that have the most influential impact on communication within project-based networks are organized in an integrative framework that gives an image of factors influencing relationships in project-based teams. The theoretical model is proved through a qualitative study of project-based teams performance. Data was collected through the use of meetings observations, email interviewing of participants and informal interviews.

Findings: Although sensemaking and relational exchanges are distinct concepts in the extant literature, this study illustrates the ways in which the two are interconnected: the social processes of relational exchanges between project participants engaging in the processes of sensemaking and the ways of approaching relational exchanges that would facilitate the process of sensemaking. On the basis of the theoretical discussion how projects are operated while being embedded in a context of networks of external participants we elaborated that for successful project performance management of project-based networks should play facilitating and supportive role of creating a framework enabling mindful behaviour and collaborative processes of problem-solving.

Research limitations/implications: Even this study highlights previously overlooked connections between literatures on relational exchanges and organizational sensemaking by giving attention to a diverse range of issues concerning project-based business networks, further research in this direction may be useful for deeper understanding of the processes. Firstly, the generalizability of the findings presented here remains to be tested. Secondly, the aspects influencing relational exchanges in short-term project setting identified here may not be exhaustive: they could be supplemented by the discovery of other aspects, perhaps through data collected from project setting of different type. Thirdly, although relational exchanges can vary in sense of communication and collaboration intensity, it was outside the scope of this study to address the issue at this level of analysis. Despite these limitations, this study has made an attempt to draw up the findings that may have some implications for both research and practice.

Value of research: As revealed in our study, a set of management incentives may help in creating a positive environment for efficient communication and collaboration within a project. It suggests that management incentives should try to organize a trust like environment that will provide much of incentive for partners to work together non-opportunistically during their relational exchanges and much of the assurance necessary for exchange partners to feel comfortable with this arrangement. The results of the study clearly shows that applying management methods will help shortcut the process necessary to establish the working norms necessary for functional communication and collaboration between participants.

Keywords: project-based networks, short-term relationships, communication, collaboration, sensemaking, trust, interdependence, management incentives, coordination, support

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Lilia Jakobsson

Malmö, December 2007
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Interimistic Relational Exchange (IRE) is defined as a close, collaborative, fast-developing, short-lived exchange relationship in which companies pool their skills and/or resources to address a transient, albeit important, business opportunity and/or threat.

Enduring Relational Exchange (ERE) in which there is sufficient time for relational exchange to emerge in evolutionary fashion.

Organisational sensemaking is defined as a process of finding order, forming collective patterns of interpretation and creating a frame of reference or an identity for the project.

Substitutes for trust create the trustlike behaviours that are necessary for functional relational exchange and based on the incentive structures of trading partner(s) “that promote relationship-oriented behaviours or restrain opportunism” (Rindfleisch and Heide 1997)

Govermentality is defined as a combined power of synergy of strategies of organizational governance, in a broad sense, as well as self-governance by those who are made subjects of organizational governance.

Formalization is guiding framework of project goals, rules-of-the-game, an institutional set-up, or similar

Empowerment is locating decision-making authority at the project team level by allowing teams to establish their own rules and procedures (two aspects of empowerment)

Change management the emergent approach of adaptation to business operating conditions that offers a “more appropriate method of accomplishing the stream of adaptation that organisations need in their quest to bring themselves back into line with their environment” (Burnes, 2000; Osarenkhoe, 1992).

Virtual organization is defined as a temporary organization formed from strategic alliances or partnerships (“real organizations”) that can be dissolved when the common business or the common project is finished.

IMP Industrial Marketing and Purchasing Group

SMEs Small and medium sized enterprises

Communication is an ongoing process of making sense of the circumstances in which people collectively find themselves and of the events that affect them (Taylor and VanEvery, 2000)

Collaboration is a social process with economic outcomes, where value is created and shared jointly by agreement between the parties involved.
CHAPTER 1: INTRODUCTION AND OVERVIEW

1.1 Background and motivation for the study

I have, in my professional life, been confronted with challenges caused by poor communication and weak collaboration between parties involved in joint business projects. However, I had never formulated these challenges clearly as questions to be subjected to scientific enquiry. Participation in the Marketing Management Program, this new learning experience has created conditions that helped me to see on management problems from more analytical and critical point of view. The decision to conduct research about management of relatively short-term business relationships has grown mature under the last two years, at the same time as observing problematic aspects of project-based collaboration that I had opportunity to participate in. The management issues appeared for me challenging and I decided to search for answers in extant literature on relationship management.

The context for my research question to appear was a project environment of Tetra Pak factories’ construction where the company I am working for is one of project participants. A project of this sort is a highly complex task of both technical and organisational matters. For development and implementation of these projects Tetra Pak involves a large number of external organizations. Following the outsourcing strategy Tetra Pak has built a network of consultants able to provide particular expertise that the company can rely on within a project scope.

Experience of recent projects has shown shortcomings of project management activity, consequences of which appeared on later stages of project implementation. Management contacts were mainly directed on individual links between Tetra Pak and the service suppliers, while leaving communication between participants on their own initiative. The projects had problems of communication and weak collaboration within the network of consultants participating the project. Their inputs to the project were not properly adjusted to each other and have appeared to be of low value for the project outcome in sense of implementation efficiency regarding time and cost.

There was a necessity not only for individual interactions between Tetra Pak and each supplier but also for integrated communication and collaboration of all involved parties. Observation of this situation created the thinking that involving separate expertise for executing a particular part of the project requires management efforts to organize and
coordinate the process of communication and collaboration of all involved parties taking into consideration the nature of their short-term relational exchanges within project-based circumstances. The definition of short-term relational exchanges utilized in this paper is based consistently on a framework of relational exchange researchers (Varadarajan and Cunningham, 1995, Wilson 1995, Day 1995, Cobb 1991, Pearce 1995, Gundlach and Murphy 1993), and considers that some forms of relational exchange “will have a finite life by definition (e.g., a joint development project),” and relational exchange relationships “that do not involve shared equity are less rigid and may be easier to revise, reorganize, or terminate…” (Varadarajan and Cunningham, 1995).

To prove our presumption this study was conducted in search of the extant knowledge relevant to the problem in question. As it has been found in Bresnen (2007), in recent years, there has been an enormous amount of interest in interorganizational collaboration, including within project-based settings, as researchers and practitioners have sought to understand the factors leading to and inhibiting successful collaboration among firms (Bresnen 2007). Maitlis (2005) gives a deeper picture by stating that scholars understand relatively little about varied patterns of interaction that might be associated with ongoing and quite ordinary sensemaking processes across a broader range of situations involving a diverse range of participating parties.

Although under the last decade there has been increased interest in management of project-based teams and numerous examples of such relationships exist, relatively little is known about the dynamics of sensemaking when different parties engage simultaneously or reciprocally in such activities (Maitlis 2005), in particular, there is still little research about “the dynamics of shorter relationships” (Grayson and Amber 1999). We refer to sensemaking viewed by Weick (2005) as a significant process of organizing in which people enact more or less order into ongoing circumstances through the interplay of action and interpretation. Further, many researchers maintain that there have been calls for greater clarity of terms and further conceptualisation of the short-term relationships (Lindquist 2004; Lambe C., Spekman R. and Hant S., 2000; Grayson and Amber 1999; Wilson 1995) and its distinction from the concept of the enduring relationship (Spekman et al. 1996; Anderson and Weitz 1992; Dwyer et al. 1987; Hakansson 1982). Some authors have considered the short-term relationship as involving only non-relational mechanisms of communication support (Adler 1966, Arndt 1979, Hakansson 1982, Varadarajan and Rajaratnam 1986). In contrast, other authors emphasized
more on psychological aspects in building short relationships (Macneil 1980, Willson 1995, Dwyer et al. 1987, Gundlach and Murphy 1993, Morgan and Hunt 1994). However, this separation between psychological aspects and non-relational management techniques neglects the interdependence between the psychological factors and objective reality of short-term relational exchange.

Management of communication between partners involved in short-term project-based relationships and the ways, in which multiparty value is created as a result, form a task for important and necessary research in marketing theory and practice. A holistic perspective of seeing all parties as a mutually connected network and not as separate relationships of each participant to the customer opens new approach of managing the process of communication and collaboration within a project.

1.2 Objectives

The primarily objective of this research is to: 1) clarify and define aspects that have important influence on effectiveness of relational exchanges within project-based networks. More specifically, the research aims to define whether there exists a positive relationship between management activities that can influence the communication environment within project-based groups and effectiveness of collaboration between participants. The first objective is followed by the second objective, which contains another concern here: 2) to create a graphical model that will interpret interdependence of the aspects assumed to influence the process of nonevolutionary relational exchange between independent parties involved in a project-based network structure. These objectives aim to find the ways to align organisational communication styles to the needs of the project network considering the role and importance of a network perspective in understanding communication and team working.

1.3 Research question

Thinking within the scope of the problem recognized during the Tetra Pak factories construction projects, which became the cause for our research, we presume that in order to increase value of project’s final outcome, coordination of the whole network of relationships between all parties involved in a project rather than only individual links in the network will help to realize the potential benefits of a project network structure and improve effectiveness and efficiency of project performance.

Thus the central research question of this thesis is:

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In what role management incentives can positively influence communication and collaboration within a network of the external parties involved in a project?

1.4 Scope of this thesis

This study examines relationship in project-based teams and presents a model that attempts to visually capture concepts that had been discussed in the academic literature. Rather than considering advantages or disadvantages of short-term relationships, the model focuses on the degree of mobility reflected in building of relationships along three continua: one environmental, one managerial, one of experience in collaboration.

The study attempts to respond to this concern by exploring some of the key issues and challenges of networking that the process of project implementation encounters. It focuses on a number of new challenges of relationship management theory and research impelled by the emergence of new conditions of the modern economy. In particular, it addresses challenges related to (i) the economy’s greater reliance on professional and intellectual capabilities, and (ii) the emergence of technology-enabled support of information transfer and communication.

Theses two challenges concern a wide and complex domain of relationship management theory and research. It, therefore, is necessary to concentrate on more specific issues within these areas. This thesis focuses on six pressing issues:

- short-term relational business exchanges versus enduring relational business exchanges
- virtual organizations
- sensemaking within project networks
- relationship interdependence
- trust in short-term relational exchange
- interorganizational communication.

At the end this research will provide us with the following insights:

- about relationships between organizations under interorganizational collaboration within a project-based network
- a more comprehensive understanding of what is involved to make business collaboration effective when relationships have limitations in time and are conditioned by mutual formal independence of participating parties.
This knowledge will help us to determine and to understand the factors leading to and inhibiting successful communication and collaboration within interorganizational project-based teams.

The result of the research is a body of the thesis report that lacks direct applicability either for the individual consult who needs to handle communication and quality performance with others in the project or for the practicing manager who seeks to support communication in the project between all parties involved. However, it has been made an attempt to convert the study description into a conceptual image that may be useful to executives to challenge and inform their thinking on their own organizational responses to network management. On the basis of the model the author developed strategic options and proposals for improving strategy of communication management within a project-based teams in concern to provide conditions for effective collaboration and better project outcome.

Based on the developed model, propositions and directions for future research have been suggested.

1.5 The structure of the thesis
The rest of this thesis proceeds according to the following below logical sequence:

- To create clear understanding about the approaches discussed in the academic literature regarding communication and collaboration challenges that are related to short-term relationships such a project.
- To identify aspects that might stimulate communication and collaboration between participants
- To create theoretical model on how development of relationship is influenced by different aspects influencing communication and collaboration within project-based groups
- To study development of relationships within projects in real situation
- To find out project participants’ requirements and wishes what would make collaboration between them more effective
- To analyse differences and gaps between theoretical and empirical findings
The thesis begins with introduction (chapter 1) that explains background and motivation for the study. It continues with a study of relevant extant literature that forms the basis for the theoretical framework (chapter 2). Our conceptual framework is based on some concepts found in the theories on the context of the knowledge economy, marketing theory, organizational management, in particular, management aspects of the short-term business relationships, and sensemaking theory of Weick (1995; 2005). Development of theoretical framework culminates with formulation of a hypothesis at the end of the Chapter 2.
Because this is an empirical research, we continue with an empirical study (chapter 3). In this chapter we will describe the design of the research, the sample and the instruments used. After demonstrating our research set-up we present the results of this empirical research - the results of interviewing of project participants about the problems encountered during the projects. The data analysis part of this thesis entails a comparative analysis of empirical data with the findings from the theoretical framework that verifies the hypothesis we formulated (chapter 4). We conclude this thesis with a ‘discussion’ chapter (chapter 5). Here we will provide an overview of the results, and discuss limitations and suggestions for further research.

In sum, resuming shortly discussed above: to be able to build a model that can give an image of factors influencing relationships between participants involved in project-based teams, sources of academic literature are investigated and analysed. On the basis of literature review aspects that have the most influential impact on communication within project-based networks are organized in a process-oriented integrative framework. The theoretical model is proved through empirical study of performance of project-based teams.
CHAPTER 2: THEORETICAL FRAMEWORK

In this chapter we describe the context of the modern economy and business exchanges concerning the reliance on intellectual capabilities and the search for businesses integration and collaboration in creating value. In the following section we find the relevance of networks relationships and the impact they have on organizations performance. Next we explain what networks are and the nature of collaborative relationships. Based on this we can clarify relationships interdependence within network. Further, by exploring the work of Weick et al. (2005) and Vlaar et al. (2006) we tie together the concept of organizational sensemaking and development of collaboration within networking structure. To further grasp the phenomena of project-based interactions we investigate interimistic and virtual organization relational exchanges and try to define the process of sensemaking under project-based conditions. Finally, we turn to the study of Lambe et al. (2000) and explain the concept of trust and its substitutes for short-term relationships.

2.1 CONTEXT OF THE MODERN ECONOMY AND BUSINESS EXCHANGES

This section describes the context of the knowledge economy and how organizations are affected by this context. We explore recent theories on relational exchange and focus on relational interdependence and the need for networking in value creation.

Among different streams of research in relationship management field classified by Osarenkho and Bennani (2007) a special interest for this study represent:

- Inter-organizational exchange relationships (Håkansson, 1982; Ford, 1990; Hallen et al., 1987; Dwyer et al., 1987; Gummesson, 1995; Zineldin, 1998).
- Network relationships (Webster, 1992; Easton, 1992; Johansson and Mattsson, 1985, 1988; Zineldin et al., 1997)
- Sensemaking in interorganizational networks (Weick 2005, Maitlis 2005)

Study of the extant knowledge created in these streams will help us to build a framework for systematisation of knowledge and answering our research question.
2.1.1 Historical perspective on the development of relationship management research

The study of relationship management (RM) arose from research on “relational” (Macneil, 1980) business-to-business exchange during the 1980s. It was a strategic response to industry conditions resulting from a collaborative effort between two or more firms to achieve a competitive advantage on the market (Achrol 1997; Day 1995; Webster 1992). Relationship marketing was the way to expand the view of resources to entities that are available outside the firm that enable the firm to produce efficiently and effectively a market offering that has value for some market segments. This expanded view emphasized that resources are not needed to be owned by a firm, just be available to it. It led to understanding that the ability of firms to partner affected their ability to respond to external factors and to compete (Day 1995; Varadarajan and Cunningham 1995; Webster 1992; cited in Hunt and Lambe 2000).

When competitive advantage depends on complex adaptation to changing technologies and evolving markets, firms seek out supplementary to their business skills and knowledge of other firms to be able to create a superior offer to the market. Through various types of partnership with these firms, interorganizational networks grow in depth and breadth. (Goerzen, 2005) All activities directed towards establishing, developing and maintaining successful relational exchanges refer to “relationship paradigm” (Grönroos, 1990, 1995, 1996, 1997; Gummesson, 1994; Morgan and Hunt, 1994, cited in Donalfson and O’Toole, 2002; Sahay, 2003; cited in Osarenkhoe and Bennani 2007).

Scientists give importance and stress on diverse aspects of relationship marketing phenomenon. Gummesson (1994) proposed that “relationship marketing … is marketing seen as relationships, networks, and interaction”. In his later work Gummeson (2002) modifies this definition emphasizing that relationship marketing is based on interaction within networks of relationships. The purpose of relationship marketing is seen in enhancing marketing productivity by achieving efficiency and effectiveness (Sheth and Parvatiyar, 1995). Morgan and Hunt (1994) assert that to be an effective competitor (in the global economy) requires one to be an effective cooperator (in some network) (Hunt and Lambe 2000).

Since the mid 1970s academic researchers had been searching business interactions and relationships (Håkansson and Ostberg 1975; Håkansson 1982; Axelsson and Easton 1992; Håkansson and Snehota 1995; Ford 1997; cited in Ballantyne et al. 2003). Although relational exchange has been a topic of expanding interest in many disciplines (e.g.  

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Gomes-Casseres, 1987,1989; Hamel and Prahalad, 1994; Harrigan 1985a,b, 1988; Kanter 1994; Larson 1992; Moore, 1993; Ouchi, 1980; Ring and Van de Ven, 1992, 1994), it is a topic that has a special appeal to researchers in the area of marketing. At least since the works of Bagozzi (1975), Hunt (1976) and Kotler (1972), definitions of the process of marketing have focused on exchange, which requires the establishment of some form of an exchange relationship between parties (Dwyer et al., 1987); Varadarajan and Cunningham, 1995). As exchange in general (and especially business-to-business exchange) has become increasingly relational, some marketing scholars argue that a paradigm shift from transactional to relational exchange is occurring (Day, 1995; Kotler, 1991; Parvatiyar et al., 1992; Varadarajan and Rajaratnam, 1986; Webser, 1992), which is reflected in a growing body of marketing research that focuses on relational, business-to-business exchange relationships (e.g. Dwyer et al., 1987; Gundlach and Murphy, 1993; Morgan and Hunt, 1994). (Hunt and Lambe 2000)

In sum, it was established that exchange processes occur not only between two individual exchange parties, but also to a degree between several parties directly or indirectly in contact with each other. The result was that the attributes of interaction and networking became the subject of research on relationship marketing (Håkansson and Snehota, 1995; Anderson et al., 1994; Ford, 1990; cited in Osarenkhoe and Bennani 2007).

2.1.2 Contemporary view: External Environment for Business Relationships

Ballantyne et al (2003) notice fast changing environment of global and deregulated open markets. The authors emphasise a phenomena that appears within organizations when open market conditions create higher levels of change and complexity within and between organizational boundaries. This fluid and uncertain environment demands for more work from different perspectives to be integrated. The amount of knowledge and information that must be absorbed and exchanged often exceeds the capacity of any organization, which creates the need for more interactions. This situation calls for changes in management of business relational exchanges. Ballantyne et al. (2003) propose establishing more open relationships as strategies for recreating stability, thus opening up value-creating opportunities in new ways. (Ballantyne et al. 2003)

Osarenkhoe (2006) points on another aspect that also influences interactions in the business. It is knowledge-based character of economy. Firms that will succeed in the emerging economy of virtual networks or the information age are those that can identify, value,
create and evolve their knowledge assets. He underlines that relationships are a matter of strategic management and that the management of relationships is a core managerial task. (Osarenkhoe 2006)

Interesting observations of changes within companies and their attempt to adjust to changing environment have been made by Hunt and Lambe(2000). They noticed that the business landscape becoming more complicated, where firms no longer compete head-to-head as individual entities. Instead, a firm’s relationship with its market is defined by the constellation of firms of which it is a part. These constellations or “networks” (Thorelli, 1986) are built on a series of collaborative relationships, which fall under the rubric of relationship marketing (RM), and which have become a focal point for determining a firm’s interaction with its market. (Hunt and Lambe 2000)

Strategic effects refer to the way in which collaboration helps organizations to improve their strategic performance by developing an enhanced competitive advantage (Galaskiewicz and Zaheer 1999; Gulati et al. 2000). According to this view, collaboration is about working with partners to leverage existing resources of all kinds to provide maximum strategic benefit. The reasons for collaborating are clear: organizations should collaborate to gain access to combinations of resources that produce new or improved capabilities that allow organizations to do things they could not do alone. (Hardy et al. 2003)

Osarenkhoe (2006) maintains this opinion by commenting that firms continually dismantle the old order of economic activity (technological, organizational and managerial) and simultaneously invent and build a new one (Nolan, 1996). Thus, organizational behaviour in this climate is determined by an attempt to create a new equilibrium by destroying the traditional hierarchical communication infrastructure and constructing information technology-enabled dynamic networks of shared intellectual resources. Structural modifications of exchange processes, partly due to the emerging economy of virtual networks are forcing firms to give top priority to relationship management (Meuter et al., 2005, cited by Osarenkhoe 2006)

In sum, exploring the context of the knowledge economy has provided us with two insights. Firstly, organizations in the current knowledge economy are highly dependent upon the knowledge and competencies of each other. Secondly, collaborating organizations can

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be a rich source of new external information due to their membership of ever more global communities.

2.1.3 Nature of Exchange Relationship

Now that we have stressed the importance of external environment influence on development of exchange relationships in the business, we move on to further explain how these relationships work: through investigating the nature of business interactions.

Business-to-business exchange of the “relational” (Macneil 1980) kind has special appeal to marketing researchers. Since the works of Kotler (1972), Bagozzi (1975), and Hunt (1976), definitions of the marketing process have focused on exchange, which requires the establishment of some form of an exchange relationship between parties (Dwyer, Schuur and Oh 1987; Varadarajan and Cunningham 1995; cited in Lambe et al. 2000)

Relationship marketing is motivated by the parties’ mutual recognition that the outcomes of relational exchange exceed those that could be gained from either another form of exchange or exchange with a different partner (e.g. Anderson and Narus, 1984, 1990; Dwyer et al., 1987; Nevin, 1995). Simply put, functional relational exchange requires a functional relationship between the exchange parties (Anderson and Narus, 1984, 1990; Day, 1995; Dwyer et al., 1987; Heide and John, 1992; Morgan and Hunt, 1994; Wilson, 1995). The governance mechanism in relational exchange, therefore, is a key determinant of relational exchange success is the relationship. (Hunt and Lambe 2000)

Relationship development and performance is seen as a dynamic process in which the various dimensions of a relation interact and self-organise into a mutually consistent pattern of performance, perceptions and attitudes representing the ‘personality’ of a relationship (Wilkinson and Young, 1999; cited in Svensson 2002) Recognising the centrality of the relationship, researchers have attempted to find out relationship attributes that facilitate relational exchange (Varadarajan and Cunningham, 1995; Wilson, 1995). These attributes include commitment (Anderson and Weitz, 1992; Ganesan, 1994; Morgan and Hunt, 1994), trust (Moorman et al., 1992; Morgan and Hunt, 1994), communication (Andersson and Narus, 1990; Mohr and Nevin, 1990), cooperation (Anderson and Narus, 1990; Morgan and Hunt, 1994; Stern and El-Ansary, 1992), mutual goals (Heide and John, 1992), interdependence (Anderson et al., 1987, Anderson and Narus, 1984, 1990; Hallen et al., 1991), social bonds (Han et al., 1993; Wilson, 1995), adaptation (Hakansson, 1982; Hallen et al., 1991), and

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seen as a social process with economic outcomes, where value is created and shared collaboratively by agreement between the parties involved. However, sustained voluntary cooperation in interorganizational networks cannot be taken for granted. Lack of trust among partners, the reluctance of organizations to relinquish their independence, the complexity of joint projects, and the different capacities of organizations to collaborate are common barriers to cooperation (Bureau of Industry Economics 1995; Das and Teng 1998; Powel et al. 1996). Such barriers must be overcome or outweighed by the factors that impel organizations to continue to cooperate with each other (Williams 2005).

2.1.4 Relationships´ Interdependence: a dynamic character of cooperation

In this section we explicitly stress on interdependence of relationships involved in the business process. We ground our discussion on findings from the extant literature to provide support for our key assumption.

A mutual business opportunity raises environmental incentives for interdependence in exchange relationships. Here, exchange partners are dependent on each other for their success and, thus, if the firms are to achieve their individual goals, their partners must achieve their goals also. Because it fosters a cooperative effort between the exchange partners, Lambe et al. (2000) points out on importance of interdependence for functional relational exchange. Research suggests that interdependence is critical for promoting cooperation and adaptation in relational exchange (Hallen et al. 1991; Kumar et al. 1998). Gebrekidan and Osarenkhoe (2007) draw the picture further to connections between different relationships by noticing that what is happening in one relationship affects the interaction in others involved in the business.

Svensson (2002) arrives to the same assertion that the overall quality of an outcome may eventually depend on the dynamic interactive process between all the actors in the network.

As the developers of the network approach (Hägg and Johanson, 1982; Hammarkvist et al., 1982; Johansson and Mattson, 1988; Håkanson and Snehota, 1995; cited in Gebrekidan and Osarenkhoe 2007) argue, actors in interaction possess specific resources and perform specific activities that create the exchange that make them become interdependent on each other. Thus the activities of an actor depend, for the most part, on the outcome of certain others. Once the relationships are interconnected, a development in one relationship can affect
others, positively or negatively (Gebrekidan and Osarenkhoe 2007). Svensson (2002) maintains that this means that firms have to be aware that an unsatisfactory performance quality by others in the business environment might also have an impact on themselves and their service. The better the partners interact, the better the outcome that the network will achieve. If one or more of the partners is performing poorly, the overall outcome quality will be harmed (Svensson 2002). For Axelsson and Easton (1992), for example, one actor’s action must be viewed in lieu of those of other actors in a network and relationships between the actors in the network. (Gebrekidan and Osarenkhoe 2007)

However, the interdependence among actors prospers best when it is a mutually beneficial relation; thus, the interacting parties give and take from each other. Mutually beneficial conditions strengthen collaboration of the interacting actors in those areas of business where they receive the most value - knowledge, technical, commercial, social, and administrative.

In order to strengthen relationships, the actors in interaction may make several adaptations (Hammarkvist et al., 1982; Håkanson, 1982). Crucial will be therefore that the parties mutually undertake (Gebrekidan and Osarenkhoe 2007) adaptations that are necessary to sustain the relationship mutually beneficial.

In following section interorganizational network perspective will be applied in the discussion of management of project-based teams. The subject has an essential importance for businesses and social science because relying more on projects increases entrepreneurship and flexibility and adaptability of firms, characteristics often seen as merits of markets (Lindquist 2004). The difficulty is that navigation of the cross-functional project-based teams is challenging a lot of traditional management methods (Osarenkhoe 2006). Project-based teams are “formed to pursue a specific project outcome” that “are most typically found where complex, non-routine tasks require the temporary employment and collaborations of diversely skilled specialists (DeFillippi and Artur 1998). The object of cross-functional team is to bring people with expertise around the table to discuss all the problems and opportunities existing for every particular area of the project (Osarenkhoe 2006).
2.2 RESEARCH MODEL

Having discussed the theoretical setting of this thesis, now we will propose the research model and conceptualise how this research model works. Based on the arguments collected from the extant literature we suggest that organizational management initiatives will positively influence development of relationships and performance of project-based networks through organizing communication between all involved parties. The research model is made up of three variables: environmental context, interorganizational relationships antecedents, and management incentives, which are depicted in Figure 3.1 below.

![Research Model Diagram]

*Figure 2.1: Research model.*

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The main research question accompanying this research model is:

*In what role management incentives can positively influence communication and collaboration within a network of the external parties involved in a project?*

In the model the process of Interorganizational Collaboration is thus influenced by three separate categories of factors. The two of them Environmental Context and Antecedents of interorganizational relationships are independent variables that define the initiate conditions for communication within a project network. The interim dependent variable in our research model is Management Initiatives and the fully dependent variable is Interorganizational Communication and Collaboration. We call Management Initiatives for interim dependent variable because of its dependence on initial project conditions and its influence on the process of communication and collaboration during the project.

Based on what we just discussed we believe that impacts of all variables are interrelated, and therefore we sum up that *there is significant relationship between environmental context, previous collaborative experience, and management incentives that cause development of relationships within a project network.* Further we suggest that the Management Initiatives variable carries crucial role on building communication process within a project network and the project outcome.

Now that we have stressed interdependence of aspects that characterize business environment and socially complex resources available within a project, we move on to further explain how these different aspects are related to building communication milieu and collaboration between parties involved in a project. This way will enable us to get more insight into how and to what extent each aspect plays its role in the process of interorganizational collaboration. The following section provides an overview of some theoretical concepts of interorganizational management that will lead us to understanding the interactive processes taking place within project-based networks. We explicitly focus on how people (organizations) organize: on connection between sensemaking and communication. We continue by portraying short-term business relationships. This will be followed by a discussion on the problem of trust and approaches appropriate to solve it in short-term and enduring relationships. All these steps will help us to make clear a picture of interactions within project-based networks, which we will refer in our further search for appropriate management incentives that may positively influence communication and collaboration between project participants. We will conclude by presenting a hypothesis that will be tested further in the empirical study.

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2.2.1 Communication: Organizing for sensemaking

To fully grasp how sensemaking refers to communication, we need to clarify the key definitions of these terms and their interconnectedness.

Sensemaking is defined by Buchel et al. (1998) as a process of finding order, forming collective patterns of interpretation and creating a frame of reference or an identity for the project. Sensemaking processes are assumed to play a central role during collaborative efforts (Vlaar, 2006). They appear when individuals engage in communicative interactions to develop a meaning for the environment in which they operate (Smirich and Calas, 1987). It is critical to the early stages of a cooperative venture because it reduces ambiguity, legitimises the cooperation and facilitates action (Buchel et al., 1998). The interaction provides a crystallization of the realities of the organizational process, ultimately allowing for a socially constructed view of the organization which is shared among the communicating members (Rapert 2000). It is through these interactions that the continual creation and reaffirmation of interpretations emerge (Brown 1986; Putnam 1986). This communication provides managers with a mechanism for transmitting new ideas and values. It is critical because it reduces ambiguity, legitimises the cooperation and facilitates action.

Weick et al. (2005) see communication as a central component of sensemaking and organizing. In terminology of Obstfeld (2004) to share understanding means to lift equivocal knowledge to make it ordered and relevant to the situation at hand. Through communication “people organize to make sense of equivocal inputs and enact this sense back into the world to make that world more orderly”. Taylor and VanEvery (2000) declare communication as an ongoing process of making sense of the circumstances in which people collectively find themselves and of the events that affect them. As this occurs, they continue, a situation is talked into existence and the basis is laid for action to deal with it. Action-taking generates new data and creates opportunities for dialogue, bargaining, negotiation, and persuasion that enriches the sense of what is going on (Sutcliffe 2000). In this “process of continued redrafting of an emerging story so that it becomes more comprehensive” Weick et al. (2005) recognize connection between communication and sensemaking.
2.2.2 Interorganizational communication

In this section we will further explore the process of sensemaking and communication: identifying, assimilating and utilizing information, and removing its equivocality. By doing so we can understand why individuals need to communicate for effective performance. Even more, it provides insight into the role of sensemaking during collaborative efforts.

In early stages of cooperation interorganizational relationships are frequently characterized by relatively high levels of ambiguity and uncertainty (Carson et al. 2006). Discontinuities in structures, contexts, routines, expectations and perceptual frameworks (Hoang and Rothaermel 2005, Rouleau 2005, Weick 1995, Zollo et al. 2002) cause problems of understanding in interorganizational relationships. As noticed by Weick et al. (2005) when information is distributed among numerous parties, each with a different impression of what is happening, the cost of reconciling these disparate views is high, so discrepancies and ambiguities in outlook persist. This increases the likelihood that misinterpretations and misunderstandings occur (Shankarmahesh et al. 2004). It confronts parties with difficulties in understanding their partners, the relationships in which they are engaged and the contexts in which these are embedded (Vlaar et al. 2006) and leads to problems in communication. Such problems are especially pertinent in relationships between unfamiliar partners (Sutcliffe and McNamara 2001) and in complex, cross-sector collaborations (Jap 2001). In these cases, cooperation brings into tension “extraordinarily complex ways of framing problems, as well as divergent knowledge and truth claims based on competing disciplinary paradigms” (Couchman and Fulop, 2002, cited in Vlaar et al. 2006)

Consequently, existing patterns of beliefs and assumptions may have to be revised, and cognitive reorientations (Fiss and Zajac, in pres; Gioia and Chittipeddi 1991) and the creation of new, more coherent understandings become imperative for collective action (Maitlis 2005; Weick 1993). Sensemaking processes are therefore assumed to play a central role during collaborative efforts. These processes form “the primary site where meanings materialize that inform and constrain” action (Weick et al 2005:409, citing Mills 2003:35), and they permit parties with “different views of the purposes and expectations of a relationship to achieve congruency” (Ring and Van de Ven 1994, cited in Vlaar et al. 2006)
Evidently, participants may not fully comprehend each other’s competencies, strengths and weaknesses, and they may find it hard to envision the projected outcomes of relationships (Jap 2001). Furthermore, they may experience difficulties in appreciating the potential for transacting with each other (Arino and Ring 2004) due to absence of unity in purpose and expectations (Mjoen and Tallman 1997). In such cases, common or congruent understandings have to be developed to enable cooperation and joint value creation (Balogun and Johnson 2004; Weick 2001; White and Lui 2005). The leading organizing role may be suitable for customer party that is most beneficial of the outcome of collaboration. Participants should be assisted to remodel their understandings by making sense of their partner, the relationships in which they are engaged and the contexts in which these are embedded (Kirsch 2004; Lindenberg 2003; McGinn and Keros 2002; Ring 2000). Sensemaking concerns the interactive processes by which participants in interorganizational relationships construct accounts that allow them to comprehend the world and act collectively (Maitlis 2005; Rouleau 2005; Weick and Roberts 1993). Sensemaking not only concerns identifying, assimilating and utilizing information, but also removing its equivocality (Weick 1995), and diminishing participants’ cognitive disorder by foreclosing alternative interpretations and understandings of phenomena (McKinley and Scherer 2000, cited in Vlaar et al. 2006)

2.2.3 Short-term relationships

In the following paragraphs we will review and explain the concept of interimistic relationships and the concept of virtual organizations. These insights will give us some understanding of relationships in project-based teams and challenges of their management.

Interimistic Relational Exchange

Research on relational exchange suggests that a key mechanism that enables such exchange to create value is nature of the relationship (Lambe et al. 2000). Thus, the development of a relationship whose nature has certain attributes is prerequisite to functional relational exchange. Therefore, “evolutionary model” of the process of developing relational exchange suggests that high levels of relational exchange attributes are based on each partner’s historical, long-term view of the exchange relationship as it has developed through exchange episodes during the stages of relationship development. (Lambe et al. 2000)
Short-term exchange relationships have little time to develop. Nevertheless, they are genuinely relational because they exhibit high levels of cooperation and collaboration (Wilson 1995). Lambe et al. call these exchange relationships "interimistic" relational exchange because of their interim nature. Interimistic relational exchange (IRE) is defined as a close, collaborative, fast-developing, short-lived exchange relationship in which companies pool their skills and/or resources to address a transient, albeit important, business opportunity and/or threat. Such relational exchange occurs in a context where there is a high level of time pressure to develop the relationship, and the expectations of future transactions are reduced. Because interimistic exchange relationships must quickly become functional and have a short life, these relationships have less time to fully develop the relational governance mechanisms assumed in the evolutionary model. Therefore, interimistic relational exchange appears to rely more on nonrelational mechanisms than does enduring relational exchange. (Lambe et al. 2000)

A bifurcation suggested by Lambe et al. classifies IRE as a form of relational exchange (in contrast to unrelational transactions) because it requires relatively high levels of cooperation, adaptation, and joint planning. The expected short life of IRE creates time pressure that makes it less relational than enduring relational exchange (ERE). Because the exchange parties have limited time together, they are forced to eliminate, or accelerate, the evolutionary process of relationship development. The time compression of IRE prevents relationship development because it reduces the ability of the exchange parties to "view the relationship in terms of its history" (Dwayer et al. 1987) and reduces the parties’ expectation of a future “mutuality of interest” (Heide and John 1992). Partners have less time for the evolution of relational attributes (such as trust and commitment) and relationship-specific norms (such as reciprocity) (Lambe et al. 2000)

Lambe et al. (2000) imply that IRE need to be managed differently than ERE and propose to begin thinking more about relational exchange from a temporal perspective. These requisites, as they see, represent a reasonable starting point for the development of a nonevolutionary model of relational exchange.

Virtual organizations

In context of globalisation, organizations especially small and medium sized enterprises (SMEs) cooperate to fulfil conditions of complex, often concurrent projects.
Parallel to this evolution, organizations are increasingly utilizing process-aware information systems to perform their workflows in an automated way. Based on such information systems, organizations focus on their core competencies and access other competencies through cooperation, moving towards a new form of network known as virtual organization (Chebbi et al. 2005).

There is still no agreed-upon definition of virtual organizations. Broadly speaking, a virtual organization is often defined as a temporary organization formed from strategic alliances or partnerships (“real organizations”) that can be dissolved when the common business or the common project is finished. A virtual organization is considered as the modern organizational form, and hence, as being the more advanced and the most efficient one (Gornev 1997). Byrne defines a virtual organization as a temporary network of independent companies, suppliers, customers, and even rivals, linked by information technology to share costs, skills and access to markets (Byrne 1993). Chebbi et al. (2005) define a virtual organization as a set of partners (“real organizations”) distributed in time and in space, sharing resources and competencies (similar or dissimilar) and cooperating to reach some shared objectives using information technologies. Thus, partners with complementary competencies and knowledge can be gathered to carry out projects, which are not within the range of only one organization: cooperation allows each partner to benefit from knowledge of the other partners in the virtual organization. With this intention, partner workflows are not carried out in an isolated manner, but interact during their execution, while sharing data in coordinated way (Russel, 2004). Coordination brings a synergy that contributes to the improvement of each partner work performances (Chebbi et al. 2005).

Cooperation between partners within a virtual organization is established according to needs for businesses and their competencies and roles. This leads to a dynamic character of cooperation. The set of partners is in constant evolution. It is possible for organizations composing the virtual organization to be geographically distributed. It is also possible for organizations to join and leave the virtual organization as its state changes over time. That is, the composition of the virtual organization may be dynamic. (Chebbi et al. 2005)

Furthermore, its shared net behaviour implies that there is some dynamic structure to the interactions between the organizations composing the virtual organization. On the one hand, interactions can be relevant and constructive if they complement each other and guide the work toward the objective of the virtual organization. On the other hand, they can
cause adverse effects if they are not well coordinated or if participants do not follow their roles in the cooperation. The effective result of the cooperation and the desired objective are then likely to diverge. (Chebbi et al. 2005)

2.2.4 Sensemaking in project-based teams

In this section we discuss specifics of the sensemaking process under conditions of short-term relational exchanges within project-based teams and evaluate how the context of short-term relationships influence communication and coordination across involved in a project parties.

Increasingly technology-based businesses force service-providing firms, operating in dynamic context, to become participants of customer-organized projects where they belong temporarily to projects and are subjected to different project leaders as their assignments change. Projects typically comprise parties with different (technical) competences, and different experience from other projects. A “competence network” (Lindquist, 2004) covering core technical processes sets up only for project duration. Interacting in the project participants learn the interfaces between their own specialty and other’s specialist areas without going deep in their subject. Most what they learn is how to interact with specialists in problem-solving processes. People learn how to use their expertise knowledge in a practical context, where action and results as well as swiftness are the dominant governing norms or values. Guided by their knowledge of what others are able to do, how they approached various kinds of problems, they learn when and how they might contribute in the collective effort to bring about projects goals (Lindquist, 2004).

Projects typically comprise a mix of individuals with highly specialized competences, belonging to different functionally differentiated “thought worlds” (Dougherty, 1992) making it difficult to establish shared understandings, a common knowledge base, etc (Lindquist, 2004). Knowledge inputs are necessarily embedded in a context – cognitive and behavioural, individual and social – which powerfully constrains their discovery, their transfer from one set of actors to another, and their usefulness in different situations (Postrel 2002). It is worth understanding when does it make sense from the point of view of a cooperative team for actors to focus entirely on their own specialities, and when it is efficient for them to develop a common understanding about one another’s capabilities. The answer leads to a

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knowledge-based view of management as being concerned with selecting, operating, and governing “islands of shared knowledge in a sea of mutual ignorance” (Postrel 2002).

Kogut and Zander (1996) identify a problem of knowledge division and coordination across individuals as being central to the performance of organizations. They point out that the extensive specialisation found in modern economic life results in a situation where each individual is largely ignorant of the activities of his fellows, and stress that bridging these knowledge gaps in some way is essential to the coordination of economic activity.

Specialisation and differentiation of knowledge is more efficient for knowledge acquisition, but mutual understanding and homogenisation of knowledge facilitate knowledge exploitation (Kogut and Zander 1996). (Postrel 2002)

A network structure enables all the stakeholders to share vision, expertise, tasks and responsibilities, and participate equally in the decision-making process. They are thus “connected decentralised” (Bandyo-Padhyay, 2002), because although decentralised in their organisational structure, they are connected by the network. By sharing information with each other, these decentralised decision-makers are able to combine the available information from all stakeholders in a project with their own knowledge, energy and creativity. (Osarenkhoe 2006)

As discussed in Weick et al. (1999) and Weick and Westley (1996) such “underspecification of structure” tends to foster increased sensitivity to local conditions and mutual adjustment interaction. The flexible allocation of individuals to projects, the diversity and limited overlap of interdependent skills, and the short term nature of projects, implies that the project groups hardly become “well-developed groups” (Weick and Roberts, 1993) in traditional sense with shared values, shared understandings, shared knowledge base, etc., facilitating concerted action. Instead project members have to coordinate their activities guided merely by the explicitly stated project goals and their knowledge of “who knows what”. (Lindquist 2004)

2.2.5 Trust in Interorganisational Relationships

We further involve the factor of trust as a contributing to the development of interorganizational relationship. We therefore, examine to what extent the factor of trust contributes to relational exchange within project-based teams.

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Social exchange theorists have described trust as the most important variable in relational exchange (Blau, 1964; Homans, 1958). Trust develops through social exchange in which relationships develop through interactions over time (Hakansson and Wootz, 1979; Nevin, 1995, cited in Hunt and Lambe 2000). It has been defined as an expression of confidence between parties in the exchange that will not be harmed or put at risk by either party’s actions (Jones and George, 1998; Humphrey and Schmitz, 1998; Blois, 1996; Sahay, 2003). Concepts such as honest dealing (Das and Teng, 1998, cited in Osarenkhoe and Bennani 2007) reliability and integrity (Morgan and Hunt, 1994), credibility and benevolence (Ganesan, 1994; Geyskens et al., 1999), and word that an obligation will be fulfilled (Blau, 1964; Moorman et al., 1993; Schurr and Ozanne, 1985, cited in Hunt and Lambe 2000) have been used to describe antecedent conditions for trust building among collaborating partners. The higher the level of trust, the higher the degree of relationship success (Mohr and Spekman, 1994, cited in Osarenkhoe and Bennani 2007).

Woolthuis et al. (2005) drawing upon Nooteboom (2002) make a distinction between weak and strong forms of trust/opportunism and systematise macro and micro sources of supporting relational trust. Macro sources arise from the institutional environment of laws, norms, values, standards, and agencies for their enforcement. This yields “institution-based” “thin” trust, which is based on the trust in institutions that support or enforce trustworthiness of people and organizations. The micro sources arise in specific relations, are personalized and are referred to as sources of “thick” trust. Thus, trust and contract can be seen as both complements and substitutes and both make intuitive sense (Woolthuis et al. 2005).

The fundamental problem is that, in temporary project settings, there is often limited opportunity for the development of deeper, more resilient forms of trust (Ring 1994, cited by Bresnen 2007). Considering conditions for trust development in Interemistic Relational Exchange (IRE) and in Enduring Relational Exchange (ERE), Lambe et al. (2000) suggest that IRE should rely more on substitutes for trust than ERE to create the trustlike behaviours that are necessary for functional relational exchange. With reference to the discussion in Rindfleisch and Heide (1997), trustlike behaviours in an exchange relationship are based on the incentive structures of their trading partner(s) “that promote relationship-oriented behaviours or restrain opportunism”. Lambe et al. (2000) see substitutes for trust as especially important in IRE because they can be developed quickly, unlike trust that requires considerable time to develop. Many researchers exemplified a fleeting business opportunity.

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that requires collaboration and creates clear mutual dependence between exchange partners; it provides recognizable fair-dealing incentives that can be used immediately by the partners as substitutes for trust (Das and Teng 1998; Rindfleisch and Heide 1997; Rousseau et al. 1998, Sheppard and Sherman 1998; Williamson 1994). (Lambe et al. 2000)

Lambe et al. (2000) suggest three variables that could serve as substitutes for trust in IRE: environmental incentives, reputation, and relation-specific investments. Firstly, environmental conditions in the form of mutual business threats and opportunities can create substitutes for trust within an exchange relationship (Varadarajan and Cunningham 1995). From a resource dependence perspective, the partners are dependent on each other for their success, and this dependence motivates them to cooperate and behave nonopportunistically (Pfeffer and Salancik 1978). The contractual limitations caused by formal contract relationships only between each supplier (service provider) and customer heighten the mutual realisation of the exchange partners that in order for them “to achieve their mutual goals”, they must “conduct themselves in an ethical manner” to encourage such behaviour from their partners (Gundlach and Murphy 1993). Thus, substitutes for cooperation are created by environmental context because the partners should sense that if they display opportunism or fail to act equitably, the relationship will not work. (Lambe et al. 2000)

Secondly, as to a reputation for fair dealing, it seems useful for trust building in IRE because the trust it creates exists at the beginning of the relationship. An exchange partner’s reputation for fair dealing provides not only an important signal that the partner can be trusted but also that the partner will do what is necessary to make the exchange relationship successful, for their reputations are “on the line”. Exchange partners “can signal their level of commitment through their…[reputation] in other … [exchange] relationships” (Anderson and Weitz 1992).

Thirdly, even suggesting specific investments as a substitute for trust Lambe et al (2000) detect that IRE might rely less on relationship-specific investments than on the other two substitutes for trust - environmental incentives and reputation - because the exchange relationship may not last long enough to provide a payback on these investments (Bucklin and Sengupta 1993; Heide and John 1990; Stump and Heide 1996). Therefore, Lambe et al. (2000) conclude, partners will likely attempt to keep relationship-specific investments at the minimum necessary for functional exchange.
In the above discussion, exploring the context of project-based interorganizational networks has provided us with three insights. Firstly, short-term interorganizational relationships are frequently characterized by relatively high levels of ambiguity and uncertainty, which creates necessity for management measures that will facilitate the process of interorganizational collaboration. Secondly, organizing communication will provide an ongoing process of making sense of the circumstances in which all involved collectively find themselves and of the events that affect them. Finally, short-term relationships should rely on substitutes for trust to create the trustlike behaviours that can be developed quickly, unlike trust that requires considerable time to develop.

Now that we have stressed the specifics of short-term interorganizational relational exchanges, we move on to further explain how these relationships can be coordinated by management incentives and to what extent. The approach of linking theoretical investigations to existing practical management knowledge plays an important role in developing the hypothesis for our research question because the aim of the research is to identify management solutions applicable in real situation.

2.2.6 Theory review of management solutions

In this section the challenge at hand is to explore the methods of organizational management that might have positive effect on the process of coordinating of interorganizational collaboration within project-based groups. Put in other words: We will make an attempt to find what psychological, social-psychological and sociological aspects can make influence on the process of group work and create conditions for effective interactions between participants of a project. To help us to formulate a hypothesis we will explore the research literature about organizational methods and relate this to the circumstances of project-based teams.

Project Context

Projects increasingly require input from people with different expertise and experience. Project work involves experts who cooperate quite closely and are interdependent in achieving collective work goals. According to Mohrman et al (1995; cited in Arnold et al 2005)) a team is “a group of individuals who work together to produce products or deliver...
services for which they are mutually accountable.” Drawing upon mentioned above the main features of a team are:
- Members are interdependent
- Team as a whole rather than individuals in it has performance goals.

However, noticed by Briner, even “one of the defining characteristics of a team is that you have to be interdependent, but that’s rarely true of workplace teams. Part of the reason for recent interest in team-building is that these teams often aren’t actually working properly” (Arnold et al 2005). There are reasons causing this situation. Within projects participants have their individual, competence specific part of the work, where they set their individual goals that do not require much close cooperation for implementation. So within the project environment participants face contrasting objectives of collaborative and individual work.

The above-presented theoretical findings from the extant literature suggest that:

Problems of teamwork may be due to challenge of finding consensus between participants’ individual objectives and necessity to achieve a common goal of the whole project where all involved parties need to find relationships’ balance and create favourable conditions for successful project development.

Relationship Management Competence

Having relationship management competence allows firms to perform more efficiently and effectively by allowing such firms to work with other firms in such a fashion as to be able to take advantage of their resources and competences (Hunt and Lambe 2000). The relationship has a greater chance of being productive because firms that have such a competence will not only be more likely to choose partners that will exhibit relational norms, but also these firms understand the value of exhibiting relational norms themselves (Weitz and Jap 1995, cited in Hunt and Lambe 2000)

Based on the presented assertions from the studied literature we sum up:

Presence of previous experience in interorganizational exchange is positively related to the effectiveness of communication and collaboration within project-based teams.
Methods: Structure of Network

The ways in which interorganizational networks are structured have important implications for interorganizational cooperation. Structures are dynamic and continuously evolving, they are as much outcomes of networks evolution as they are directed and managed (Wilkinson et al 2000), and they influence rather than strictly determine the behaviour and relationships of members. (Williams 2005)

Structure establishes some of the conditions that potentially affect the motivation of organizations to cooperate with each other. Williams’ review (2005) of interorganizational networks theory and research suggests that interorganizational networks may be structured in ways that capture the benefits of formalization, density of the network, intensity of necessary information exchange and level centrality involved parties while avoiding or minimising their negative effects on cooperation.

The above suggests that:

There is a significant relationship between structure of a project network and participants motivation to cooperate.

Methods: Change Management

Operating in unpredictable and, to some extent, uncontrollable conditions is the environment in which a project-based teams operate. Change is continuous process of adaptation and transformation, which because of its speed and frequency managers cannot fully either identify or effectively control centrally (Burnes, 2000). In a dynamic and uncertain project-based team environment, the emergent approach of adaptation to business operating conditions offers a “more appropriate method of accomplishing the stream of adaptation that organisations need in their quest to bring themselves back into line with their environment”(Burnes, 2000; Osarenkhoie, 1992). According to emergent view, identifying and managing change has to be responsibility of all stakeholders in a project, thus participants are expected to be competent, adaptable, willing to take responsibility for identifying deficiencies and implementing collaborative solutions (Osarenkhoie 2006).

Based on the above we sum up:

The emergent approach of adaptation to business operating conditions is positively related to encouragement of communication and collaboration within project-based circumstances.
Methods: Governmentality

Clegg (2002) discusses a concept of governmentality that possesses an alternative to policing, litigation and arbitration, especially in situations where there are multiple actors and interests, through the design of a more collective and coherent practical consciousness within which to make sense. He sees in the practice of governmentality an aspiration to create a common sensemaking frame (Peters and Waterman 1982; Weick 1995; Colville et al. 1999) or a common “practical consciousness” (Haugaard 2000). As hypothesized by Jackson and Carter (1998) governmentality means that “people should voluntarily and willingly delegate their moral autonomy and moral responsibility to obedience to the rules, to being governed in their conduct by a “moral” force… which is external to the “self”.

Originally the term governmentality was coined by Foucault (1988) to define the combined power of synergy of strategies of organizational governance, in a broad sense, as well as self-governance by those who are made subjects of organizational governance. The mode of governmentality and its culture explicitly orients to aligning business objectives, generating mutual incentives, sharing risks, pooling strengths and building trust. Literally, it seeks to make conflicting modes of rationality redundant through building a collaborative commitment and transparency into the moral fibre of a project. It seeks to constitute each self-interested actor, both individually and organizationally, in such a way that they have something to gain from greater collaboration within the project. It does by tying individual and organisational bonuses to performance on transparent indicators, in such a way as to seek to ensure that no trade-off between them will take place. Performance becomes translated into performativity – an awareness of always being on view, in not only what one does, but also how one does it. Constituting performativity is the function of transparency, because the more transparent one can make the actual performance of different experts’ knowledge and actors, the fewer opportunities can arise for them to exert professional prerogative in power games around the detailed interpretation of contracts. (Clegg 2002)

The above suggests that:

The concept of governmentality is significantly positively related to supporting of communication and joint performance in the sense of a) building a collaborative commitment and transparency into the moral environment of a project might facilitate motivation to
cooperate; and b) self-governance by those who are made subjects of organizational governance might encourage willingness to information exchange and communication.

Methods: Direct Communication and Face-to Face Interaction

Through dialogue people are getting organized. The “organizing-ness” of conversation is fundamental (Taylor 2004). It is important to the quality of collaboration in teams that team members are able to communicate directly with all other team members (communication structure) because the exchange of information through mediators (e.g., team leader) is time consuming and a possible cause of faulty transmission (Hoegl et al. 2001).

As a ground for direct communication importance of face-to-face communication for establishing and sustaining social relationships is seen to be essential in project development work because it enacts an ongoing and evolving knowing of the shifting set of players in the game, thus building and sustaining important social networks that support the doing of distributed work. It is by working with and through such social networks members can navigate and negotiate many of the challenges of working across temporal, geographic, cultural, and political boundaries. Face-to-face interaction generates a knowing of each other and each other’s commitments, which helps to get things done across distance. The ongoing practice of face-to-face interaction allows members to constitute a sense of knowing their colleagues, of knowing their credibility in and commitment to specific issues, and of knowing how to collaborate with them to get things done in a globally dispersed and complex project development environment (Orlikowski 2002).

Lindquist (2004) sees the network meetings as a tool of face-to-face interaction that provides with possibilities of discussing current problems and experience gained in project work, where project leaders and participants, by the way, can find out who knew what, what were their experience in various project settings, etc. These networks thus constitute formalised arenas for “cross-talk” between the projects, for identifying technical competence needs, and for continuous updating of “who-knows-what” (Lindquist, 2004).

Based on this we sum up:

**Direct Communication and Face-to Face Interaction are positively related to encouragement of communication and collaboration between participants of project-based teams.**
Methods: Empowerment

Giving individuals greater decision-making responsibility leads to their being more committed to the project and to meeting goals. At the same time, it can lead to greater satisfaction on the part of team members (McDonough 2000). Osarenkho (1992) maintains that people tend to support what they help to create, and meaningful participation provides both familiarity with the change and a sense of responsibility for the success of the new system (cited in Osarenkho 2006).

By locating decision-making authority at the project team level, firms are able to reduce the time it takes to make decisions, solve problems, and take actions. By allowing teams to establish their own rules and procedures (two aspects of empowerment (Lawler 1992; Wellins et al. 1991)), cross-functional cooperation is fostered, which, in turn, effects project outcomes (Pinto et al. 1993). Thus, empowerment may affect performance indirectly by generating cooperation among team members, which, in turn, may lead to faster decision-making and higher quality products (McDonough 2000).

Encouraging individual imagination, reflection, flexible adaptation is seen to promote new responsibilities among individuals and new ways of interaction within the project network. Project working environment should provide for its participants a spirit of an increased degree of self-organization within limits set. By clearly stating what is expected of members a reliable “cognitive infrastructure”, generating processes of mindful, flexible action and interaction may in effect be institutionalised, where all parties are expected to participate the process of finding out how to achieve the collective goal (Lindquist, 2004).

Empowering project teams has a tendency to follow what happens. These attempts at partnering often involve the application of quite formalised means of “engineering” the relationship and thereby of developing trust (e.g. through complex selection procedures, charters, contracts, workshops and performance incentives). The paradox that emerges is therefore in the tension between a desire for cooperation and trust, on the one hand, and the reinforcing of a desire for control, on the other. It is tension between strategic intent and practical reality about the partnering. Decentralisation and empowerment therefore constitute forms of control that has been described as “responsible autonomy” (Friedman 1977, cited in Bresnen 2007).

The above suggests that:

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Empowering project teams is significantly positively related to supporting of collaboration and communication in the sense that a) an increased degree of self-organization within limits set generates processes of mindful, flexible action and interaction; and b) meaningful participation provides a sense of responsibility for the success.

Methods: Coordinating contribution

Coordinating contributions from different functional areas efficiently is of critical importance to the successful design and implementation of projects (Hoegl et al. 2001).

McDonough et al. (1991) study shows that a participatory style of leadership creates higher project performance when leaders of cross-functional teams do not take direct actions to precipitate project success. Rather, they operate indirectly as enablers of the project development process. From this point a participatory style of leadership describes as an effective enabling method, where team members are given the freedom to explore, discuss, and challenge ideas and make their own decisions about what technologies to pursue, problems to solve, and tasks to undertake. When this style is employed, the team leader gives considerable control to the team to conduct product development as they see fit (McDonough 1991, cited in McDonough 2000)

Based on this we sum up:

A participatory style of leadership is positively related to encouragement of communication and collaboration between participants of project-based teams.

Methods: Formalization - Relational Norms

While interaction in external markets is embedded in a societal context of prices and institutional rules, interactions in project groups is guided and restrained by set of goals and other rules within hierarchy of the customer. Such processes need to be “embedded” within a guiding framework of project goals, rules-of-the-game, an institutional set-up, or similar (Lindquist 2004). Ongoing use of the project management model, the planning tool, and common systems development methodology, as well as, the negotiated assignments and contracts, allow to collectively and repeatedly align participants with their dynamic and distributed project development work. Plans, methodologies, tools, contracts, and metrics facilitate coordination by reducing uncertainty and variability (Orlikowski 2002).
Sensemaking in the context of interorganizational relationships has been shown to be intricately related to formal processes of negotiating and contracting (Arino and Ring 2004). Considering formalization’s relationship with sensemaking, Vlaar et al. (2006) believe that formalization facilitates sensemaking in interorganizational relationships. They suggest that formalization may function as a means to make sense, enabling participants in collaborative relationships to cope with problems of understanding. (Vlaar et al. 2006) This is supported by Blomquist et al. (2005) by stating that “the contracting process may be used purposefully to increase mutual understanding” and “protect themselves against opportunism” (Yli-Renko et al. 2001).

Weick (1969, 1979) contends that organizing may help to establish a workable level of uncertainty and ambiguity, where “a framework of roles, rules, procedures, configured activities and authority relations” can both reflect and facilitate meanings. Weick thus acknowledges that organizing processes, such as formalization, may be conductive to sensemaking. Vlaar et al. further develop the idea that formalization enables, or even forces collaborating parties to engage in sensemaking, helping them to create common ground and achieve mutual understanding (Blomquist et al. 2005; McGinn and Keros 2002; Ring and Van de Ven 1989, 1994). Formal aspects to a large extent anchor, inform, influence, and add to the informal and implicit understanding of cooperating parties (Ness 2002), and they assist parties in defining and redefining “the terms of their interdependence” (Walton and McKersie 1965, as cited in Putnam 2003). This suggests that formalization influences sensemaking, and eventually the creation of generic understandings that form a basis for interorganizational exchange (Arino and Ring 2004; McGinn and Keros 2002; Sivadas ad Dwyer 2000, cited in Vlaar et al. 2006).

Norms are important in relational exchange because they provide the governance “rules of the game.” For the IRE to be functional, the partners need to have relational norms that will foster collaboration. Due to limited time scope IRE appears to be heavily reliant on mechanisms that could develop mutual relational norms either prior to the initiation of the relationship or very early in the life of the relationship (Lambe et al. 2000). Such mechanisms include industry-wide exchange norms, the partners’ mutual agreements about relational exchange norms within a current project, and norms of previous interactions within other projects.

The above suggests that:

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Formalization is significantly positively related to supporting of collaboration and communication in the sense of a) enabling participants in collaborative relationships to cope with problems of understanding; and b) forcing collaborating parties to engage in sensemaking and helping them to create common ground of the game.

Methods: Information distribution

Project-based teams tend to be not only strongly decentralised, but also quite loosely coupled (Orton and Weick, 1990). Lindquist (2004) contends that governance in such context must take into account project’s fundamental dependence on knowledgeable participants, and its potential weaknesses in dealing with issues of integration of involved parties.

Recent research of Lindquist (2004) provides us with the means of tying the communication aspect to information circulation within project-based groups. In his research Lindquist presents findings about an information-seeking approach applied to solve a need for information distribution among project participants. Ideas of information distribution were abandoned and instead every participant was made responsible for searching the kind of information he needed or wanted, in electronic media, contacting directly other participants. This reliance on the parties to have best knowledge of what information they need and where to find it, was paralleled by the policy of everybody having unlimited access to project information (Lindquist 2004).

Lindquist stresses that knowledge opportunism appeared to be of no benefit in project-based teams. The quite limited overlap among specialist competences meant that one could help others without risking that these would be able to capitalize extensively on one’s advice. Moreover, mutual dependence of participants in project-based teams makes them disposed to cooperate without opportunistic attitude. In addition, as project work is typically carried out in rather public interactions, those who do not contribute actively and share their experiences with others ran the risk of developing a bad reputation and low demand for their services (Lindquist 2004).

Based on this we sum up:

The principle of unlimited information access is positively related to the process of maintaining communication and collaboration between participants of project-based teams.
Methods: IT support in communication and cooperation

Business alliance involves a lot of interactions of individual business activities among the allied enterprises. A successful alliance relationship could hardly be kept without a good system that can efficiently support the interactions among the allied organizations. Lloyd and Varey (2003) indicated the necessity of integrated communication methods and media in various alliance situations. Some studies also agreed that communication is the most common and important activity in business alliances (Brown and Pattinson, 1995; Cheng et al., 2001, cited in Yang, 2007)

Knowledge is recognised as explicit and implicit and as existing both inside and outside companies. In this regard, management research seeks ways to stimulate effective knowledge collaboration and mutual deployment between stakeholders of the project to maximise the use of knowledge and expertise possessed by every participating firm. Organizations are increasingly investing in information tools with collaborative potentials, enabling them to take advantage of globally dispersed business partners and competent workforces, but also to transform themselves into virtual organizations (Fineman et al., 2007). Nowadays knowledge management capabilities rely strongly on a firm’s IT infrastructure that allows to maintain and deliver real-time authenticated information on urgent operational issues in order to provide faster decision-making at all touch points (Osarenkhoe 2006). It provides flexibility and responsiveness by shifting the work and expertise to as-needed bases by enabling people based in different locations to communicate and coordinate their actions with great speed and efficiency (Fineman et al., 2007).

Taping individual knowledge into the knowledge stores by using computer-based communication techniques (such as e-mail, internal web, video conferencing), allows communication between all connected personnel. These communication links facilitate the formation of problem- or project-based networks by individuals across the project (Osarenkhoe 2006; Prokesch 1997; Gebert et al. 2003; Kolbe et al. 2003).

Internet-based information systems (IBIS) are powerful tools to help enterprises facilitate operational activities among interrelated individuals or units in recent years. Yang et al. (2007) study has reported that communication and information sharing were the most frequent and important activities in an alliance and, of the common business alliance activities, created the strongest demand for the IBIS system.

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Firms are implementing technologies to facilitate proper management of relationships, thus epitomising the intrinsic role of technology in the delivery of services (Bitner et al., 2002; Dabholkar, 1994; 1996; Parasuraman, 1996). According to Meuter et al. (2000) technology-based interactions are expected to become a key criterion for long-term business success (Osarenkhoe 2006).

Based on this we sum up:

*Integrated communication methods and media are positively related to the formation of project-based network by individuals across the project.*

### 2.2.7 HYPOTHESIS FORMULATION

Through building the theoretical framework we arrived to a hypothesis for our research question.

The key assumption of this research is that management incentives are positively related to contribution to the project network communication and collaboration process, through organizing all involved parties into the process. To prove it we need a bridge between initiate conditions of project context and desired level of communication and collaboration of project participants. We suggest that project coordination, streaming from investing in diverse management initiatives, will collectively lead to more participants’ engagement in communication and collaboration. Taking into consideration the context of project circumstances: the short-term nature of relationships, available access to means of communication and information exchange, and parties’ different experience in collaboration, managers need to find a strategy that will encourage and mobilize interaction among participants. As mentioned before, Lambe et al. (2005) suggest applying available project circumstances for building substitutes of trust. Some initial project conditions such as parties previous relational experience or participants interest in image building and reinforcing may work directly as substitutes of trust. The extension to which these features are present at the beginning of the project define initiate conditions for communication between project participants. Further it is the turn for management initiatives to create other substitutes of trust and unleash the process of communication.

We suggest that management initiatives might occur across 10 complementary management aspects (as it was presented on the Figure 3.1), where application of each will vary depending specific demand of the project. Managers learn and use their own strategies for
organizing and running projects. However, they may apply only limited scope of initiatives or emphasize importance only of a certain method without being aware about benefits of other methods. By dividing management initiatives into related categories we aim to get new insights for organizations how to mix and utilize management levers across each category for the project benefit.

Now that on basis of a growing pool of the extant literature we have discussed psychological, social-psychological and sociological aspects that can exert influence on the process of group work and create conditions for effective interactions between participants of a project, we can formulate the key hypothesis that suggests that:

A complex approach that considers psychological aspects and non-relational management techniques is needed within a project-based environment due to presence of interdependence between the psychological factors and objective reality of short-term relational exchange. In other words, coordination of the whole network of relationships between all parties involved in a project rather than only individual links of the project network will help to realize the potential benefits of network structure and improve effectiveness and efficiency of project performance.

2.2.8 Comments on the theoretical framework

Concluding the theoretical part of the paper, we sum up that we have investigated our research question by building upon extant literature on management of interorganizational interactions (Hunt and Lambe 2000, Osarenkhoe and Bennani 2007, Ballantyne et al. 2003, Osarenkhoe 2006, Hardy et al. 2003, Williams 2005, Svensson 2002), and by critically examining research on short-term interorganizational practices (Lindquist 2004, Postrel 2002, Lambe et al. 2000, Chebbi et al. 2005). We have focused on the relationships between sensemaking, communication, trust, and interdependence and the mechanisms through which management can facilitate collaboration within project-based groups, including: (1) network structure; (2) change management; (3) governmentality; (4) direct communication and face-to-face interaction; (5) empowerment; (6) coordinating contribution; (7) formalization; (8) information distribution; and (9) IT support. We argue that a complex approach that considers psychological aspects and non-relational management techniques is needed within a project-based environment due to presence of interdependence between the psychological factors and objective reality of short-term relational exchange.
This theoretical framework provides two conclusions important for our empirical study. First, it differentiates conditions of relationship development during temporary and enduring interorganizational interactions by emphasizing on ambiguity and uncertainty factors that need time to overcome in the process of interorganizational cooperation. Second, this chapter carries Weick’s (Weick et al.2005) work on the relationship between organizing, communication, understanding and sensemaking forward in the context of short-term interorganizational relationships. We capitalize also on diversity of other contributions found in the extant literature to develop further a notion of relationship between sensemaking, problems of trust, communication, and interdependence within temporary interorganizational work settings. In particular, we present a systematic literature overview of the mechanisms through which management can contribute to improve communication and collaboration processes in project-based networks. More generally, this theoretical framework highlights connections between literatures on organizational management by giving attention to a diverse range of issues concerning management of project-based teams.

Next by conducting an empirical study we will further elaborate on the management initiatives and search for explanation and evidence why we believe that these initiatives are related to improving communication and collaboration between project participants. The study will use a qualitative methodology that is acknowledged for studying of dynamic processes, especially where these processes are constituted of individual’s interpretations (Gioia&Thomas 1996; Hinings 1997). Research issues will be examined from the perspective of the participants of two projects, in which we traced interorganizational interactions processes in real time, as they unfolded over a two-year period. We expect that the empirical study will show whether a facilitating and supportive role of management initiatives will help project-based teams to achieve effective level of collaboration while reducing ambiguity and complexity of the interactions process.
CHAPTER 3: EMPIRICAL STUDY

The empirical part of this thesis consists of a study that was carried out to test the conceptual model-framework developed on the basis of the literature review (See Figure 2.1). Having selected a qualitative research approach (Marshall and Rossman, 1995) to guide the exploratory element of this study, a flexible research design, which would allow findings to “unfold, cascade and emerge” (Lincoln and Guba, 1986:210), was adopted. This methodology was applied earlier in Gebrekidan and Osarenkhoe (2007) to present insights and the usefulness to be gained from using an international relationship and network approach to study the business activities.

Chapter 3 highlights the methodology that has been used in the research. Motivation for qualitative analysis is discussed. Further describes information gathering and structuring. Validity and reliability of the paper for further research are evaluated, and limitations are determined. Empirical findings are presented in chapter 4. In the analysis section, findings will be analysed by using the concepts in the research model (Fig. 2.1) to analyse major themes that emerged from the empirical findings. The concepts in the research model will be used to give the empirical findings and analysis an appropriate structure. Interview questions may be found as appendix (see appendix A).

3.1 METHODS

3.1.1 Research Design

The research design was built to fulfil the objectives of this study: 1) to collect and systematise available opinions about aspects that might positively influence collaborative performance under short-term business circumstances and 2) to prove validity of the theoretical hypothesis that suggests that:

A complex approach that considers psychological aspects and non-relational management techniques is needed within a project-based environment due to presence of interdependence between the psychological factors and objective reality of short-term relational exchange. In other words, coordination of the whole network of relationships between all parties involved in a project rather than only individual links of the project

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network will help to realize the potential benefits of network structure and improve effectiveness and efficiency of project performance.

Our research question caused a mix of approaches that were used in research design and methods applied. The research design included an extant literature review and a longitudinal case study. The aim was drawing on and extending important ideas from research on organizational management of project-based teams.

The criteria for investigation of the literature were based on identifying those areas that appeared relevant to the analysis of relationships in project-based teams. Relevant conceptual development was found in strategic management, organization science, organisational behaviour, project management, marketing science, information technology marketing, business/industrial and services marketing. The information used is gathered from the mandatory course literature of MBA Marketing Programme, sources of periodical academic literature and sources found on the Internet. The author has strictly assessed quality of Internet sources through acquiring information only from well-known official web sites.

Networks are always analysed as a process (Coviello & Munro, 1995, cited in Osarenkhoe, 2007). Against this background, for empirical study, a case study strategy was applied, considering it as a most suitable for longitudinal observation of relationships’ development processes within project-based teams. Yin (1994) supports that qualitative approach applies when the information is collected, analysed and interpreted concerning feelings and attitudes often within case studies. According to Narayandas and Rangan, empirical research in relationship management has tended to take a picture of a relationship at a given time and then attempted to project its trajectory, despite agreement among researches that a longitudinal perspective focused on process models advances the implications for practice. This situation calls for more field-based research that involves longitudinal case studies or actions research (Gebert et al., 2003) that draw on material from the multiple exchange episodes that constitute relationships and offer insights into the processes of relationship initiation and maintenance (Narayandas and Rangan, 2004, cited in Osarenkhoe 2006). This study used a qualitative methodology to address its research question and to gain a deeper understanding of the problem, namely, the process of communication and collaboration within project-based networks. This approach is in agreement with those of Gioia&Tomas (1996) and Hinings (1997) that qualitative methods are well suited the study of dynamic processes, especially where these processes are constituted of individuals’ interpretations.

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Because qualitative research typically examines issues from the perspective of the participants (rather than from that of the researcher), it is especially appropriate, and therefore frequently used, in the study of organization members’ constructions and accounts (e.g., Dutton&Dukerich 1991; Isabella 1990). Furthermore, because of its sensitivity to organizational context and its potential for focusing upon activity sequences as they unfold, qualitative research is valuable means of investigating dynamic processes in organizations (Pettigrew 1992, cited in Maitlis 2005)

The study of sensemaking interactions involves observing, interviewing and interpreting participants’ accounts and relationships, which suggests the use of intensive qualitative methods (Gioia 1996, Isabella 1990). At the same time, the identification of conditions associated with sensemaking implies an analysis in which comparisons can be made among different sensemaking situations. This study met these criteria by following organizational processes in real time, as they unfolded under two years (2005-2007). This design provided a foundation for investigating conditions associated with facilitating sensemaking in project-based organizational entities.

3.1.2 Research Context

The study was carried out in project-based networks of consultants gathered by Tetra Pak for development and implementation of new factories construction projects. Organizational management processes were traced in real time, as they unfolded over a two-year period (2005-2007) in two separate project-based teams, a context well suited to management practice research for several reasons. First, projects of such a scale as a new factory construction offer an environment in which management is particularly critical. The projects employed a number of experts in different disciplines. Each project involved diverse consultants representing different specialist areas. Participants had different technical competences and different experience from other projects. Such a multi-party context makes the social processes of collaboration particularly important.

Second, project-based teams represent an organizational form forced to operate in an increasingly challenging environment. Because every project is unique, it creates an uncertain, dynamic environment in which members must engage in interrelated enactment to manage successfully.
Third, the presence of numerous participants creates a context in which the social processes of organizational management are both important and visible. Involved in a project parties have divergent interests, which creates a central tension of the business stemming from conflicts between goals of every independent consultant and necessity to collaborate for total project outcome.

The studied projects environment has high level of generalizability comparatively to project contexts possible in other organizations. In many respects, Tetra Pak projects operate like most projects involving outsourcing strategies: there are a project goal (product) to complete, a management group leading a project, many external specialists that are involved to conduct project particular parts. Because goals, structures, and participants roles are comparable in the studied projects and any other projects, we expect to find social sensemaking processes that are similar for project environment in general.

3.1.3 Data Collection

Data needed to build the longitudinal study consist of multiple data collection methods (Denzin, 1978). Data collection continued over more than two years and involved email-interviews, observation of meetings, and extensive analysis of information exchange via email between participants. These methods have allowed to draw on material from various phases of the process (Gebrekidan and Osarenkhoe 2007) of project-based team performance (See Table 3.1).

Table 3.1 Summary of Data Sources

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formal interviews:</strong></td>
<td></td>
</tr>
<tr>
<td>Formal interview</td>
<td>Architect</td>
</tr>
<tr>
<td>Formal interview</td>
<td>El consult</td>
</tr>
<tr>
<td>Formal interview</td>
<td>Specialist of waste system</td>
</tr>
<tr>
<td>Formal interview</td>
<td>Sprinkler consult</td>
</tr>
<tr>
<td><strong>Meetings observed:</strong></td>
<td></td>
</tr>
<tr>
<td>General information&amp;discussion meetings</td>
<td>All participants</td>
</tr>
<tr>
<td>Specific issue meetings</td>
<td>Consultants in relevant subjects</td>
</tr>
<tr>
<td>Coordination meetings</td>
<td>Consultants dependent in coordination</td>
</tr>
<tr>
<td>Informal interviews</td>
<td>A number of participants interested to make comments</td>
</tr>
</tbody>
</table>

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The data collected through interviewing had been carried in form of email interviews that used an open-ended format. The e-mail interviewing was suitable data collection because of respondents located in dispersed places. Interviewees represented independent technical experts of different fields whose expertise was necessary for project implementation. Among them were architect, construction and mechanical engineers, electrical and automation specialist, ventilation and pipe technicians, experts of more specific knowledge such as installation of laminators, printers, and other machines, as well as downstream and waste systems, construction contractors, and local consultants for detail projecting. A semi-structured interview technique was used to illuminate the interplay between the industry context and specific relationships through which project-based team performance unfolds. Questions covered a customer role in project management, participants level of responsibility for project outcome, reasons that limit collaboration within a project, previous connections to other project members, interdependencies between tasks, role of communication between participants on effectiveness of individual consultant outcome and the whole project. In total, I received 4 formal e-mail answers out of 17 sent interview questionnaires, further, carrying out face-to-face and telephone contacts with these key informants.

While the Internet provides immense opportunity for information exchange, it is impossible to monitor respondents understanding and interpretation of questions until the questionnaire is completed (Maxim 1999). The design of a questionnaire plays a major role in result validity and reliability. The language problem may reduce the respondents’ ability to answer to the questions (Furrer et al 2001). Questions in the questionnaire were worded as neutrally as possible to provide a respondent with free atmosphere for answering by considering that wording of the questions must be carefully thought to avoid biasing the respondent (McDaniel and Gates 1996). This was enhanced also by open-end form of questions due to receive more accurate information about participants’ attitudes and opinions. Ethical and technical issues have been taken into consideration meeting the requirements of privacy policies and practical technical issues according to the official guidelines (O’Brien 2003) of the World Association of Opinion and Marketing Research Professionals on conducting marketing and opinion research by using Internet.

In qualitative research it is common to assume that data may guide the researcher to understand specific phenomena and develop theory. Qualitative interviewing is relatively loosely structured and open to what the interviewee feels is relevant and important, given the
interest of the research project. However, interview methodologists have begun” to realize that we cannot lift the results of interviewing out of the contexts in which they were gathered and claim them as objective data with no strings attached” (Fontana & Frey, 2000). A theoretical understanding of the research interview means conceptualising what goes on in the situation and how the outcomes can be understood. The multiple layers of meaning involved in interview work, and contingencies of the performances of the interviewee, need to be appreciated. (Alvesson 2003) Taking into consideration influence of the context on the results of interviewing, to avoid biases in the study supplementary methods of data collection were applied.

Another significant data was elaborated from observation of current project team meetings, which included meetings between Tetra Pak project leaders and various external consultants - members within each project. As a condition for access to the projects meetings, the managers of Tetra Pak as representatives of client were exempted from participating in the interview phase of the study. As a condition for data access, the names of both the projects and its participants have been disguised to assure that data from email information exchange and meetings’ discussion content could be employed for this study. Throughout each meeting, I noted down my observations, participants’ remarks, and particular situations aroused under the communication process. Discussion at these meetings addressed a wide variety of issues all regarding project development of a new factory construction. I participated in cross-functional meetings every month for the two years of the longitudinal study (2005-2007). The relatively small size of teams made actors easily identifiable, facilitating the observation of processes. Participation of meetings and discussions provided significant information for understanding of the problem.

In addition to the interviews, I conducted a large number of informal interviews throughout the study period; these often took place under café pauses during project meetings and under telephone conversation. Although these generally covered the areas that were specific to the project, it also provided opportunities to pick up on things that had just occurred and to observe groups of people informally talking, which offered insight into certain group dynamics.

Data collection and participation in two projects allowed ensuring balanced research sample without unusually high or low performance intensiveness and thus it increased the comparability of the results and the validity of the findings. The data were largely analysed

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after the study period, but I worked on my methods during the data collection as I came to understand the issues, people, and contexts. For example, I did not begin by focusing on specific issues or differentiating leaders and participants, but over many months identified these as critical to the projects’ performance.

3.1.4 Data Analysis

Having in mind that the data analysis involves turning gathered information into descriptive statements (Gebrekidan and Osarenkhoe, 2007), content analysis of completed interviews and meetings’ observation notes has been conducted within this research. The findings that emerged have been analysed on basis to look for convergence and divergence with the theoretical framework, convergence and divergence with other interviews and secondary information. This approach that was applied earlier in Gebrekidan and Osarenkhoe (2007) has been chosen because it reduces the introduction of bias by a particular researcher into the interviews and results and conforms to recommendations for source: interviewer and analytical triangulation in qualitative research (Yin, 1994, cited in Gebrekidan and Osarenkhoe 2007)

Data analysis comprised three main stages. First, I summarized and developed descriptions based on the data collected. This stage began with listing all situations involving interactions between participants that arose during the study period. Then I reduced this list to a set of issues these interactions were made for (for instance, I grouped into one domain all situations relevant to formalization issue). After developing a draft set of issues, I refined it through discussions with project participants. Then I developed descriptions that portrayed relational activities for each domain. They were constructed through quotations from combination of email-interviews, meetings’ notes, email-post information exchange, and field notes. The descriptions were thus made up of data from all sources. In stage 2, I sought to find out if theoretical model developed on the basis of the extant theory overview corresponds the empirical findings from acquired data. I analysed the descriptions in relation to the theoretical framework. I tried to ascertain whether there were recognizable patterns of interaction that constitutes the social processes elaborated in the theoretical framework. In searching for patterns of interaction, I was concerned with consistency in participants’ interactions, and the rhythm of those interactions over time. Each of the descriptions were then analysed to identify how participants and project leaders contributed through various activities to sensemaking.
processes. For each domain, I traced the level of participants’ involvement in the process, and the frequency and intensity with which they engaged in it. I used the constant comparative method, gradually building up a model from those domains that were tested. In stage 3, I addressed the research question: *In what role do management incentives positively influence communication and collaboration within a network of the external parties involved in a project?* On the basis of conducted analysis, discussion of findings summarized the analysis and showed that the strength of evidence varied for each issue domain. Evidence was considered depending on support found in the descriptions, of how intensive was participation in the process and how much management influenced this intensiveness.

The analysis is described in detail below, and Table 3.2 summarizes the issues for analysis.

*Table 3.2 The issues for analysis*

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<th>Issues for analysis</th>
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<td>2. Participants’ previous experience of collaborative work.</td>
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3.1.5 Validity and reliability of the research

Trustworthiness of the research output is of great importance for all parties concerned about the subject. The level of trustworthiness often comes from the level of interest that the group of participating people have to contribute to good output. Eriksson and Wiedersheim-Paul (1997) describe two criteria of quality and trustiness of a research: reliability and validity.

Validity could be defined as the ability to measure what is supposed to be measured (Eriksson and Wiedersheim-Paul 1997). Internal validity is the property of an investigation, which means that the conclusions are correct within that particular investigation or experiment. External validity of an investigation is property that enables its results to be
applied outside of itself, or to be generalized. (Ericsson and Wiedersheim-Paul 1997). In this investigation there will be most of the internal validity due to the fact that research field was limited within projects of similar character and environment. Regarding the external validity, the analytical generalisation in this study should be proved by further research in other project contexts to see repeating pattern of relationship development.

The goal of reliability is to minimize the errors and biases in a study (Yin 2002) by demonstrating that the operations of a study, such as the data collection procedures, can be repeated with the same results. Due to “feeling character” of the answers of the questionnaire the reliability of the investigation cannot be “beyond reasonable doubt”(Preeceee 1994), although, people involved did not have evident reasons for producing misleading information.

In this research to reassure reliability of the received information interviewees have been asked additional questions personally or via e-mail to confirm right understanding of the content of answers.

While some researchers argue that the conventional criteria of reliability and validity cannot be applied to interpretive research, it is nevertheless essential to show that the findings of a qualitative study are representative of the phenomenon of interest (Lee 1999). There are several ways to increase the credibility of a naturalistic study. These include having “prolonged engagement” at one’s data site and undertaking “persistent observation” (Lincoln & Guba 1985); collecting comprehensive, descriptively rich data, ideally through “triangulation” in data sources and methods (Maxwell 1996); conducting “member checking”, a procedure in which “data, analytic categories, interpretations and conclusions are tested with members of those stakeholders from whom the data were originally collected (Lincoln & Guba 1985, cited in Maitlis 2005). This study used a longitudinal design, which included the data gathered from numerous sources through a variety of methods. The results of this study were not based on a solitary observation or the causal comments of a few individuals, but were developed through a rigorous and iterative procedure that made full use of the wealth and complexity of the data collected (Maitlis 2005). Throughout my analysis, I also sought to identify discrepant cases and sought feedback on my interpretations and conclusions both from the participants and from several individuals external to the study.
CHAPTER 4. EMPIRICAL FINDINGS (content analysis of the collected data)

Tetra Pak develops packaging solutions for a diverse group of food manufacturers around the world. Mainly due to Tetra Pak’s rapid growth during the last few decades, company’s core activities focus on the design, assembly, and testing of packaging machines. Tetra Pak has developed specific coordination strategy to meet conditions of the company’s business process: a network of suppliers and consultants performs secondary to core business activities. They are mostly local, small- or medium-sized firms. Such conditions make the system of suppliers’ integration an important aspect in the company value process. Activities and tasks may change considerably in the different project phases, which makes it necessary not only to differentiate supplier coordination from project to project and supplier to supplier but also to establish the need for coordination throughout the project development process (Lakemond, 2006).

Our study had opportunity to follow Tetra Pak’s factory construction projects, which is a highly complex task of both technical and organizational matters. For development and implementation of these projects Tetra Pak involves a large number of external organizations. Following the outsourcing strategy Tetra Pak has built a network of consultants able to provide particular expertise that the company can rely on within a project scope, while computer-mediated communications allows Tetra Pak to exert significant influence in the value creation process. Network contexts and coordination mechanisms that help network partners to interact became important considerations in teamworking (Peters 2004). Management contacts are mainly directed on individual links between Tetra Pak and the service suppliers, though leaving communication between participants on their own initiative.

The findings reported below are from an exploratory study of communication and collaboration patterns within project-based teams organized by Tetra Pak. The author conducted content analysis of collected data: interaction processes were analysed to identify how participants and leaders contributed to collaboration through various interacting activities. The findings that emerged have been analysed to look for convergence and divergence with the theoretical framework by following the methodology applied earlier in Gebrekidan and Osarenkhoe (2007) to present insights and the usefulness to be gained from using an international relationship and network approach to study the business activities.
In our case the study investigated the possibility of applying identifiable management initiatives that could facilitate organizational sensemaking based on interaction of participants’ behaviours.

**Conditions of project-based business.** Day (1995) notes that some relational exchange relationships “are deliberately short lived” and if they “do not involve shared equity, (they) are less rigid” according to Varadararjan and Cunningham (19995). Such short-term relational exchange occurs in a context where there is a high level of time pressure to develop the relationship, and the expectation of future transactions is reduced (Lambe et al 2000). One form of short-term relational exchange is a project. The nature of a project is close, collaborative, fast-developing, short-lived relational exchange transactions, in which companies pool their skills and resources to address a temporary, although important, business opportunity or threat. It is analogous to the organizational behaviours concept of coalitions in which individuals in an organization form temporary alliances that last long enough to address a mutual opportunity or threat (Cobb 1991, Pearce 1995). As participants’ answers highlighted, in such relationships

“...the stressful environment of project development acceleration gives no time for the participants to carefully look at the development of relationships. Relationships are governed by contracts between the customer and each consultant, which does not provide stimuli for relationship development between consultants…”

Although these short-term exchange relationships have little time to develop, points out Wilson (1995), they are genuinely relational because they exhibit high levels of cooperation and collaboration. One participant noted:

“Many factors influence quality of communication: limited time planning of the project, competitive opportunism between consultants, personal chemistry, etc. Of course, it is more pleasant to work in a project where everybody is on friendly and professional terms. But consultants are no better than other people. In a complex project there will always be errors and omissions in communication between people…”

In our study we treat the variable of conditions of project-based business as an independent by considering a project context as given conditions of current business environment that cannot be adjusted to the requirements of the project. However, drawing on assertion of Varadararjan and Cunningham (1995) that environmental conditions in the form of

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mutual business threats and opportunities can create substitutes for trust within an exchange relationship, we propose that, consequently, this variable exert influence on the process of communication and collaboration within a project network and also creates preconditions for the character of Management Initiatives.

**Participants’ previous experience of collaborative work.** Project participants showed high appreciation of working with partners who had a relational exchange competence. They commented:

> “Experienced consultants have abilities of negotiating with partners. They easily divide roles and responsibilities between them through applying norms used in other projects they were participating. This knowledge about project functioning guarantees that they will continually review and adjust relationships with others in the project to the changing situation.”

According to Lambe et al. (2000) a relational exchange competence hastens norm development. This assertion converges with the idea that formalization enables or even forces collaborating parties to engage in sensemaking, helping them to create common ground and achieve mutual understanding (Blomquist et al. 2005, McGinn and Keros 2002, Ring and Van de Ven 1994). Building on these insights, we further have developed the idea that an available in a particular project relational exchange competence will provide a starting point for development of relationships within a project. This starting point varies from project to project depending on the level of participants’ competence in collaboration. In our study we treat the variable of participants’ previous experience of collaborative work as a independent by considering that participants’ relational exchange competence exist at the beginning of the project. It is a value that is given and available by chance for the certain project.

Based on what we just discussed, a convergence of our theoretical and empirical findings allows us to assert that impacts of the variables in our theoretical model are interrelated, and therefore we sum up that there is significant relationship between environmental context, previous collaborative experience, and management incentives that cause development of relationships within a project network. Further we will prove our suggestion that the Management Initiatives variable carries crucial role on building communication process within a project network and the project outcome.
Management incentives that can facilitate communication and collaboration between project participants:

Network structure. A network structure enables all the stakeholders to share vision, expertise, tasks and responsibilities, and participate equally in the decision-making process. By sharing information with each other, these decentralised decision-makers are able to combine the available information from all stakeholders in a project with their own knowledge, energy and creativity (Osarenkhoe 2006). Participants opined that efforts are needed from both sides of project leaders and participants for successful project performance. By building network structure, assigning leader to focus discussion, and combining hierarchy and collaboration to bring together professionals networks will serve as an organizing structure for collaborative professional work (Maitlis 2005). Most important, it can enable leaders to apply the energy of diverse groups of professionals and managers to realize collective aspirations. Participants’ observation is in agreement with those of Osarenkhoe (2006) and Maitlis (2005):

“…Ideally various consultants should support each other and coordinate correctly and professionally, but without a strong and defined project manager it will probably not work too well…Shared network structure should be dynamic, open to the interactions between participants than interactions will be constructive and complement each other in the process of working towards the project objective. However, if interactions are not well coordinated and participants are nor aware on their role in the cooperation, it will cause adverse affects…”

However, as noticed by Briner (cited in Arnold 2005), even “one of the defining characteristics of a team is that you have to be interdependent, but that’s rarely true of workplace teams”, collaborative success remains elusive for many companies (Kelly 2002). Findings of the study are also related to these views. Project leader and project members activities had differentiated perception of their role in collaboration across the interviewees’ comments. Each of these dimensions distinctively affected characteristics of the process of collaboration within the project network. Participants reported that network communication tended often to occur in an organized, systematic fashion, rather than ad hoc: collaboration processes were dominated by scheduled meetings, planned invents with restricted attendance. Collaboration within the network occurred in this steered way both because project leaders drew on their formal authority to organize collaboration occasions in which issues were discussed through formal channels, and because consultants responded to leader organizing activity by participating in and supporting...
these organized opportunities for collaboration. A second key aspect of steered processes was that a significant amount of collaboration occurred in meetings between consultants and leaders, rather than between different consultants without leader participation. Leaders engaging in intensive collaborative activity were able to use key resources available to them, such as time, space, and their networks, to create opportunities to meet project participants, while self-organizing meetings between participants were not particular popular because limitations in time and financial resources to support such initiatives:

“...time makes the most impact on quality of communication...The worthiest part of it is that lack of adequate communication leads to a failure in gaining shared understanding. Building understanding and commitment requires hard work through constant efforts of organizing the process of frequent communication and integration of involved in the project participants. ”

As discussed earlier in this paper, the flexible allocation of individuals to projects, the diversity and limited overlap of interdependent skills, and the short term nature of projects, implies that the project groups hardly become "well-developed groups" (Weick and Roberts, 1993) in traditional sense with shared values, shared understandings, shared knowledge base, etc., facilitating concerted action. The findings from this study support Weick’s viewpoint (1993) when many participants expressed that the context of a project seldom encouraged cooperation. They experienced that situation was further complicated by communication barriers, differences in attitudes and expectations about the network performance. In cases where partners were competitors of the same field of competence, tensions between them contributed to the mix as well.

In the informal discussions many project participants pronounced that they consider “people issues” unimportant compared to operational and technical issues. This “deal making” orientation ignores and seriously underestimates the day-to-day management and relationship aspects that actually define the process of cooperation between partners to work through uncertainties, conflicts, and changing priorities towards achieving the value creation objectives of the network (Lindquist, 2004). Instead, Lindquist (2004) suggests, project members have to coordinate their activities guided merely by the explicitly stated project goals and their knowledge of “who knows what”.

At the same time communication issues dominated the problem citation by participants. Many claimed that poor communications within a network significantly
undermined its performance. Interviewees cited problems with respect to both establishing and maintaining communications. Some mentioned the physical distance between partners to be a hinder to follow-up project development. This observation is in agreement with Peters (2004) viewpoint that “this concept of distance is not geographic distance, it is one of separation”. The notion of closeness and distance between team members has tended to move away from a physically based perception to one that is psychologically based (Peters 2004). Thus, the findings from this study and those of Peters (2004) demonstrate that network context and the coordination mechanisms that help network partners to interact become important considerations in teamwork.

**Change Management.** In a dynamic and uncertain project-based team environment, the emergent approach of adaptation to business operating conditions offers a “more appropriate method of accomplishing the stream of adaptation that organisations need in their quest to bring themselves back into line with their environment”(Burnes, 2000; Osarenkhoe, 1992). Given these ambiguities and uncertainties, participants expressed positive concerns about management support in organizing of sensemaking process with approving comments that it is an effective way to initiate collaborative interactions between participants. A project team is often expected to perform right from the start of the project (Arnold et al 2005). Commenting this situation, participants noticed that a clearly articulated by project leader meaningful and challenging connection between team goals and individual tasks created supportive environment that encouraged the motivation of project members to communicate. In its turn, this facilitated processes of negotiation and collaboration between them.

Characterizing communication under circumstances of dynamic uncertainty the respondents emphasized the importance of quality and frequency of interactions within a network. Effective communication, by their words, created the alignment of partner’s expectations, goals, and objectives through ensuring transparency, minimizing misunderstandings, reducing uncertainty and encouraging sustained cooperation. A positive role of communication was cited also with respect to resolution of the operational problems. Consequences of inadequate communication were seen to lead to undermining partners’ commitment and interest to a project:

“…communication within a project has to be coordinated. It will be a good thing to inform all involved in a project about issues that are in current discussion…Participants who are linked

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through frequent communication feel themselves involved in the process of finding creative solutions regarding shared tasks, meanings and attitudes. Although managing the flow of information is a continuous and time-consuming activity, organizing ongoing communication between participants will provide underlying basis for compromise through a better understanding of priorities and objectives …”

Interestingly, that project participants specially emphasized open communication and information sharing between the partners as critical to build a shared understanding of the project goals and objective. It is confirmed in Peters (2004) that the importance of clear and relevant team goals, and the willingness to place such goal setting at the heart of team working leads to a shift in emphasis in communication for the desire to inform, remind, or persuade to one that focuses upon building a mutual understanding between team members. It was seen by respondents that in day-to-day interactions it is very important to create the spirit of a joint mission through efforts directed to all involved partners within a project network:

“…the joint meetings give vital information and opportunity to solve misunderstandings and sides of the problems that are not so easily could be understood…communication links participants together and builds relationships between them. These relationships then help in developing, organizing and performing the project through continual and free collaborative interactions between project members…”

The above findings are in agreement with those of Osarenkhoe (2006) that identifying and managing change has to be responsibility of all stakeholders in a project, thus participants are expected to be competent, adaptable, willing to take responsibility for identifying deficiencies and implementing collaborative solutions.

**Governmentality.** The mode of governmentality and its culture explicitly orients to aligning business objectives, generating mutual incentives, sharing risks, pooling strengths and building trust. It seeks to constitute each self-interested actor, both individually and organizationally, in such a way that they have something to gain from greater collaboration within the project (Clegg 2002). Among comments that project participants shared about their experiences was that:

“…working together and having all information in the open reduces the tension, not only between individual members but between their individual functions as well… When project members reach
a common understanding, they share the perceptions of project priorities. It induces participants’
willingness to take responsibility for actions and enhances project performance. Otherwise,
without common understanding, participants act in an unfocused way that result in a lower
project outcome…”

The concept of governmentality, studied by Clegg (2002), includes constituting
performativity which is the function of transparency, because the more transparent one can make
the actual performance of different experts' knowledge and actors, the fewer opportunities can
arise for them to exert professional prerogative in power games around the detailed
interpretation of contracts. With this approach to decision-making out in the open, many
participants found it much easier to reach an agreement on the way forward which all project
members could accept. However, interviewed project participants commented that collective
effort requires more work because of pressure and control from other team members
interdependent in creation of final project value. This interdependence brings for participants
increased work intensification. It does so by having a team rather an individual allocation of
work, and by encouraging individual identity with the team target (Procter and Currie 2002;
cited in Arnold et al 2005). In the words of interviewees they felt “increased sense of
responsibility for the total outcome.”

Direct Communication and Face-to-Face Interaction. It is important to the quality of
collaboration in teams that team members are able to communicate directly with all other team
members (communication structure) because the exchange of information through mediators
(e.g., team leader) is time consuming and a possible cause of faulty transmission (Hoegl et al.
2001). Participants confirmed this assertion by commenting:

“… it is always good to have a “face” for further contacts…more personal contact by meetings or
by phone would clear most things. Sometimes, it would be better to phone, instead of just e-mailing
answers and questions…Collaboration will be strongest when project members are connected by
direct interaction. If participants are not present when information makes known, or if information
passes through several steps, it will result in misunderstanding and a poor collaboration between
them … “

Lindquist (2004) maintains these comments seeing the network meetings as a tool
of face-to-face interaction that provides with possibilities of discussing current problems and
experience gained in project work. The ongoing practice of face-to-face interaction allows members to constitute a sense of knowing their colleagues, of knowing their credibility in and commitment to specific issues, and of knowing how to collaborate with them to get things done in a globally dispersed and complex project development environment (Orlikowski 2002). All interviewees mentioned that establishment of confidence and mutual respect through face-to-face interactions plays an essential role to making a network to work. The above findings are in agreement with those of Peters (2004) that face-to-face communications are necessary for establishing team identity in term of building relationships and trust. Further, participants commented that despite revolutionizing of the process of communication, electronic means only supplement and facilitate interactions between parties that originally builds through personal contacts. Without face-to-meetings, electronic communication can cause misinterpretation of information, misunderstandings and distortion of the business process.

Empowerment. Osarenkhoe (1992) opines that people tend to support what they help to create, and meaningful participation provides both familiarity with the change and a sense of responsibility for the success of the new system (cited in Osarenkhoe 2006). Respondents were inclined to think positively on participative decision-making, even many emphasized that it is time-consuming and confusing process. Many respondents pointed out that participative decision-making gave clearer picture of work to be performed. Among advantages of this approach mentioned in interviews were: using the skills and knowledge on hand in the project, building sense of involvement and collaboration within the team, stimulating information flow and communication among participants, access to opinion diversity to create a complete picture of situation.

“...The success of the project is due largely to the full involvement and input by its participants... when control over relationships distributed among partners, it creates conscious cooperation and is more conductive to distribution of information among participants... management should work to bring together partners who contribute to the whole process...”

Ashmos et al (2002) findings maintain these comments that participative decisions are made and actions taken in less predictable and comfortable ways, but they are better suited to the specific situation. Ashmos et al arguments are consistent with the Vroom-Yetton- Jago theory that participative methods are appropriate in most situations (Arnold et al 2005).

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By allowing teams to establish their own rules and procedures (two aspects of empowerment (Lawler 1992; Wellins et al. 1991), cross-functional cooperation is fostered, which, in turn, effects project outcomes (Pinto et al. 1993). When project leaders strictly supervised participants’ interactions, participants did not engage in significant levels of communication, collaboration processes were not active. Among remarks, one carried bold description about pressed supervision:

“…Greater responsibility for the final result would make one afraid to test new ideas…when customer takes on the responsibility to control uncertainty of the project outcome…However, it would be better when the customer will maintain control not by direct supervision, but by maintaining control over communication and serving as a communication and coordination centre for project participants…”

In these situations, there was a relatively light flow of information, few project participants aware of an issue’s existence or importance, and still fewer knowing its details. Moreover, low participants communication typically led to collaborative processes with broken rhythms, rather than the continuity associated with highly active communication processes: information exchange primarily occurred in leader-participant discussions.

Giving individuals greater decision-making responsibility leads to their being more committed to the project and to meeting goals. At the same time, it can lead to greater satisfaction on the part of team members (McDonough 2000). Despite the difficulties and complexity of project relationships, participants underlined, that participative decision-making in project provided for them an opportunity for significant professional learning and development, which gave them more satisfaction from work. Interviewees called this phenomenon “enriched job” and “multi skilled professional learning.”

Coordinating Contribution. McDonough et al.(1991) study shows that a participatory style of leadership creates higher project performance when leaders of cross-functional teams do not take direct actions to precipitate project success. Rather, they operate indirectly as enablers of the project development process. When this style is employed, the team leader gives considerable control to the team to conduct product development as they see fit (McDonough 1991, cited in McDonough 2000)
Coordinating contributions from different functional areas efficiently is of critical importance to the successful design and implementation of projects (Hoegl et al. 2001). Many participants attributed a project network leader’s role with epithets: to facilitate interactions between members, stimulate the integration of knowledge that is valuable for the project, and help members to do their jobs more effectively and efficiently. In other words, managers responsibilities were primarily seen limited to serving activities, such as organizing of infrastructure to support network interactions, developing an agenda of project development and holding meetings:

“…Participants’ responsibility for their part of the work must be defined by the project manager, and followed up with chick points… best is to have one person responsible for coordination of information… Well-organized and informed project manager is essential for quality of the project… Regular project meetings are necessary, and so is an agenda and a project manager to lead the meetings. And that everybody is prepared....”

A participatory style of leadership describes as an effective enabling method, where team members are given the freedom to explore, discuss, and challenge ideas and make their own decisions about what technologies to pursue, problems to solve, and tasks to undertake (McDonough 1991, cited in McDonough 2000). By doing so, respondents believed, the leader has large capacity to help project members to improve their performance and in this way can shape the network. It is therefore entirely appropriate to hold the leader of a network accountable for its performance, even if the leader has no direct authority over individual members (Bryan 2007).

**Formalization.** Besides supportive and facilitating role, participants expected management to have a function of institutionalising a reliable “cognitive infrastructure” (Lindquist 2004), generating processes of mindful, flexible action and interaction. The participants felt often that they had “no clear frame of reference”. Participants’ concerns incorporated more directly announced expectations about their responsibilities, clearly stating what was expected from them, which, as they saw, created both flexibility and order and provided a strongly motivating context for their performance. Weick (1969, 1979) contends that organizing may help to establish a workable level of uncertainty and ambiguity, where “a framework of roles, rules, procedures, configured activities and authority relations” can both reflect and facilitate...
meanings. Opinions of participants are converging with Wick’s viewpoint, when they expressed their expectations that managers should engage in establishing a “rule-of-game” context, that will motivated people to carry out their activities in a self-organized manner. Vlaar et al.(2006) suggest that formalization may function as a means to make sense, enabling participants in collaborative relationships to cope with problems of understanding. Formal aspects to a large extent anchor, inform, influence, and add to the informal and implicit understanding of cooperating parties (Ness 2002), and they assist parties in defining and redefining “the terms of their interdependence” (Walton and McKersie 1965, cited in Putnam 2003). Citations from email-interviews say:

“...in the project there are communication procedures that require a large amount of preparation and planning before it can be conducted, such as reports, norms, instructions, standards... These documents are needed, but the procedure to elaborate them is time consuming, sometimes unnecessary...”

“... What is needed is a more clear picture of what quality to be expected... A good order will be positive... It may clarify rights and obligations... Assign defined areas of responsibility to each participant, in writing...” “Formalizing is a good tool, but only if it is maintained and updated. Otherwise nobody will take it seriously...”

The findings of Lambe et al (2000) and Heide&John (1992) and from this study demonstrate the importance of the viewpoint that partners need to have relational norms that will foster collaboration because relational exchange norms are based on the expectation of mutuality of interest, and are designed to enhance the well being of the relationship as a whole. However, it is necessary to add that participants strongly underlined the necessity of their own cooperative orientation, willingness to contribute and cooperate with others in response to management organizing initiatives.

Information Distribution. Project-based teams tend to be not only strongly decentralised, but also quite loosely coupled (Orton and Weick, 1990). Lindquist (2004) contends that governance in such context must take into account project’s fundamental dependence on knowledgeable participants, and its potential weaknesses in dealing with issues of integration of involved parties. Participants commented:

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“...Working in different companies, sending and receiving of information gets things more clear. Working in the same company sometimes makes us to believe that we have shared the information already, thus missing the point...It is one important part of collaboration process to ensure that information will reach all involved...To do this effectively and efficiently, the team need to agree on a common distribution structure. With other words, the team has to develop and agree upon a common way to inform, share, search, and obtain information...”

On the other hand, mutual dependence of participants in project-based teams makes them disposed to cooperate without opportunistic attitude (Lindquist 2004). One respondent mentioned: "It will be a good thing to inform all involved in the project...There is need for an active manager responsible for coordination of information...”

**IT support in communication.** Many respondents pointed on the importance of technical means that facilitate the process of communication. It provides flexibility and responsiveness by shifting the work and expertise to as-needed bases by enabling people based in different locations to communicate and coordinate their actions with great speed and efficiency (Fineman et al., 2007). IT infrastructure allows to maintain and deliver real-time authenticated information on urgent operational issues in order to provide faster decision-making at all touch points (Osarenkhoe 2006). However, the methods for establishing effective communication in networks need to be tailored to the unique characteristics of the project. Project participants valued existing electronic linkages that they used to apply (intranet, email correspondence) as well as they expressed interests to utilizing more possibilities of simultaneous life communication such as teleconferencing that could facilitate coordination of their efforts:

“...if there is possibility to share project information via internet, for example, through the Project Place, it is significant improvement of the project working context because partners can communicate to carry out a project that is not within the range of only one organization...the next step in development of the Project Place communication options could be that it will be possible to arrange on-line tele- or video meetings between project members via internet to make it easy to get to a solution accepted by all parties ...”

This observation is in agreement with Peters study (2004) on value of interactive computer-mediated communication media to “cycle around” issues and reach an understanding more quickly than might be possible with more traditional communication channels.

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To sum up our analysis of empirical findings, we admit that many studies (Dwyer et al. 1987, Morgan and Hunt 1994, Ganesan 1994, Wilson 1995) have shown the importance of trust on influencing behavioural patterns when people have to organize themselves for cooperative actions. This statement is also related to views expressed by Sahay (2003, cited in Osarekhoe 2007) that the foundation of any successful business rests within a company’s ability to place its trust in potential business partners. It contributes significantly to the level of partner commitment to the exchange relationship (Moorman et al. 1992, Morgan and Hunt 1994, Wilson 1995). However, short-term relationship conditions within a short-term project setting allow participants less time for trust to evolve (Lambe et al. 2000). Therefore, in project circumstances there is need for a trust like environment. Based on the preceding analysis of the factors depicted in the integrated framework (see Figure 5.1), the validity of which was tested in the empirical study, we underline that there are three categories of conditions that create a trust like environment and exert impact on development of communication and collaboration within a project network. They are: the context of project-based business, participants’ previous experience of collaborative work, and management incentives for supporting and facilitating of communication between project participants.

Now that we have analysed a separate influence of all variables on the communication and collaboration processes within a project-based network, we move on further to map out these variables’ relationship to each other. This will enable us to get more insight into how and to what extent each variable plays its role in the process of interorganizational collaboration.
CHAPTER 5: DISCUSSION

Relationship between the dependent and independent variables. The findings reported above truly portray that the framework developed under the theoretical research is relevant and empirically sound in describing factors that influence communication and collaboration processes within project-based groups (See a resume of empirical findings on Figure 5.1).

Figure 5.1: Research model with empirical findings.
As it is illustrated in the research model (See Fig 5.1) the process of Interorganizational Collaboration is influenced by three separate categories of factors. The two of them the Environmental Context and Antecedents of Interorganizational Relationships we called independent variables that are caused by the initiate external to the project conditions. The interim dependent variable in our research model is Management Initiatives has its dependence on initial project conditions and provides its influence on the process of communication and collaboration during the project. The entirely dependent variable is Interorganizational Communication and Collaboration has the total dependence on all variables of the model. Below we try to make clear our perception of the process.

Companies are connected by *networks*, which develops the interaction between them (Osankhoe 2007). Environmental uncertainty with fierce competition for markets and resources, in which this interaction unfolds, “provides exchange partners with strong incentives to work together in good faith” (Lambe and Spekman 1997). Further, environmental uncertainty poses a problem of changing conditions that also cause continuous quest to cover all contingencies and to ensure proper adaptation by the partners (Gundlach and Murphy 1993). The partners are dependent on each other for their success, and this dependence motivates them to cooperate and behave nonopportunistically (Pfeffer and Salancik 1978).

Within a project “the people who will do the work”(Weick 1977) organize to find out how to achieve the collective goal and manage uncertainty of the project context. A project promotes an increased degree of self-organization within limits set (Lindquist 2004). Because a project network is a temporary structure, it is based more on instrumental or rational motives than on expressive or emotional motives. Nevertheless, a project is a behavioural system and not just a technical or formal system. It is the nature of the multitude of behavioural patterns under different conditions that must be better understand, more than only logic of technical or formal systems (Storm & Janssen, 2004).

Social exchange theorists have described trust as the most important factor in relational exchange (Blau, 1964; Homans, 1958). Environmental conditions in the form of mutual business threats and opportunities can create substitutes for trust within a short lived relational exchange relationship, where the flexibility and adaptability offered by less rigid forms of relational exchange are viewed favourably (Varadarajan and Cunningham 1995). When substitutes for trust are created by environmental uncertainty the partners sense that if they display opportunism or fail to act equitably, the relationship will not work. Project

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participants mentioned that they fully realize that in order to achieve the project goals, they have to work ethically to be able to communicate for information exchange and a common project outcome.

All these limitations rooted in environmental uncertainty heighten necessity for management support that will help the exchange partners to achieve their mutual realization. The essence of project management is about creating a network between people and parties (organizations) (Storm & Janssen, 2004), where a project network implies as the degree to which all of those who are expected to contribute directly to the project (a) share a common goal, (b) acknowledge the necessity of the contributions by the others and (c) accept the risks posed by the project (Storm & Janssen, 2004). The empirical study findings show that participants are highly aware about challenges of project-based collaboration and recognize necessity of management incentives’ facilitating and supportive role in organization of communication and interactions between participants. These findings support Rindfleisch and Heide’s (1997) viewpoint (1996) that coordinating and facilitating role of management called by environmental uncertainty is needed to provide the incentive structures “that promote relationship-oriented behaviours or restrain opportunism”. It confirms also our assumption that the independent variable of the Project Context has its influence on the process of Communication and Collaboration within a project network, and depending on particular circumstances of the Project Context the dependent variable of Management Incentives will need changes and adjustment.

Second independent variable of the Antecedents of Interorganizational Relationships, by which we mean a prior collaborative competence of the partners, is also possesses features that give their influence on the variable of Management Incentives and on the whole process of communication and collaboration within a project. A relational exchange competence evidences a level of adaptability (Senge 1990), and firms that possess this experience have “a high level of learning capacity and can learn through fewer interactions the norms that will maximize relational exchange” (Lambe et al. 2000). A prior relational exchange competence signals that partner has certain level of integrity potential and, therefore, depending on this level a set of management incentives should be planned, which will influence in its turn on the process of communication of the project network. Furthermore, a prior collaborative competence significantly shorten development of relationships within a project (Lambe et al. 2000) because firms having such a competence understand the value
following relational norms (Weiz and Jap 1995) and aware about necessity of continually reviewing the fit of the relationship to the changing environment (Day 1995). Presence of skills in managing collaboration in the team is an important success factor for a project. Participants noticed that participants’ competence in collaboration leads to less time spent for formalizing relationships within a project and increased outcomes of interactions between them.

It is confirmed by the empirical study that interactions within a project are dependent on management methods applied, and the mix of management initiatives have its impact on communicative and collaborative processes that unfold within a project. Respondents distinctly differentiated the effect of management activity initiating collaboration processes from that of participants’ activity. According to their comments, when management played more supportive and less steering role, consultants were more willing to engage in extensive collaboration, facilitating management incentives created communication processes that were more active. A central characteristic of this process was an intense flow of information. Engagement of participants’ in shaping the interpretations of events and issues was resulting in a greater circulation of information, both directly from leaders and from participants who were motivated to provide information in response to management activity. When collaborative initiatives appeared, it involved a great deal of project members’ participation in creating joint output that, in its turn, had influence on the output of each party. Moreover, collaborative processes tended to occur in iterative discussions that continued over some time, as numerous project members discussed their opinions and stated their demands, and leaders worked to articulate their accounts of the issues of concern.

The preceding discussion shows that our assertion about interdependence of variables influencing the process of communication and collaboration is in line with the extant research on organizational management our hypothesis that says that

To enhance communication and collaboration between participants within a project-based environment a complex approach that considers psychological aspects and non-relational management techniques is needed due to presence of interdependence between the psychological factors and objective reality of short-term relational exchange. In other words, coordination of the whole network of relationships between all parties involved in a project rather than only individual links of the project network will help to realize the potential benefits of network structure and improve effectiveness and efficiency of project performance.
also turned out to be TRUE after analysis of the empirical findings.

As demonstrated in the theoretical and empirical findings reported above, the process of communication and collaboration appears to be strongly based on all three interdependent factors: the project context, prior relational exchange competence of partners involved, and management incentives that should facilitate and coordinate interactions of all partners within these given conditions. However, given the short life of a project, we opine that management incentives is the most important driving force that is able to play facilitating and supportive role in creating favourable conditions enabling mindful behaviour and collaborative processes of problem-solving within the project network.
CHAPTER 6: CONCLUSIONS AND IMPLICATIONS

6.1 Overview of the findings

In this study we have tried to view relational exchange from a temporal perspective considering relationships in project-based teams as short-term form of relational exchange (Varadararjan and Cunningham 1995). Since less time under a project-based setting allows for fewer relationship-building interactions, it restricts the degree of relationship development (Lambe et al. 2000). This study builds on Wilson (1995) approach that although short-term exchange relationships have little time to develop, they are genuinely relational because they exhibit high levels of cooperation and collaboration. Trust is a complex process, which demands interaction between the partners (Osarenkhoe 2007). It means that effectiveness of project-based networks is highly dependent on communication between involved participants and their ability to collaborate in carrying out the project work. In view of the fact that trust has been argued to exist at low levels in short-term relationships (Grayson and Ambler 1999, Dwyer et al. 1987, Heide and John 1992), this study applied Lambe’s et al. (2000) concept of substitutes for trust that might provide trust like environment facilitating communication and collaboration within a project network. Empirical findings and the review of relevant work reported in this study showed that the process of communication and collaboration appears to be strongly based on three interdependent factors: the project context, prior relational exchange competence of partners involved, and management incentives that should facilitate and coordinate communication and collaboration within a project network. Taking into consideration that the context of a project and participants’ previous collaborative experience are caused by initiate circumstances external to the project, management incentives are expected to provide the most influence on network performance within a project. The question becomes: In what role may management incentives positively influence communication and collaboration within a network of the external parties involved in a project? The findings reported in this study demonstrate that because of the time pressure to develop and achieve goals during the project, the relationships under short-term project-based setting require management support that will build and facilitate communication processes between participants and stimulate collaborative work. Management coordinating contribution is of critical importance to the successful design and implementation of projects (Hoegl et al. 2001). The study suggests that management incentives should try to organize a trust like
environment that will provide more of incentive for partners to work together non-opportunistically during their relational exchanges and to feel comfortable with this arrangement. Extant research literature also describes a participatory style of as an effective enabling method, where team members are given the freedom to explore, discuss, and challenge ideas and make their own decisions about what technologies to pursue, problems to solve, and tasks to undertake (McDonough 1991, cited in McDonough 2000). Applying management methods will advance the process of establishment the working environment necessary for functional communication and collaboration between project participants.

All theoretical and empirical findings elaborated during our study and discussed above support the reliability of our hypothesis that says:

To enhance communication and collaboration between participants within a project-based environment a complex approach that considers psychological aspects and non-relational management techniques is needed due to presence of interdependence between the psychological factors and objective reality of short-term relational exchange. In other words, coordination of the whole network of relationships between all parties involved in a project rather than only individual links of the project network will help to realize the potential benefits of network structure and improve effectiveness and efficiency of project performance.

6.2 Recommendations for practice

This study has several practical implications. The first steams from the connection between management methods applied for improvement of communication and collaboration and outcomes of project performance. Each of the methods is associated with distinct types of actions. Therefore the optimal set of management incentives may vary with the intensity of communication needed. This study suggests that management incentives should try to engage those methods that will provide the right environment for participants’ joint actions.

A second practical implication of the study is for managers seeking to encourage self-organizing in projects. If this is an important goal, managers should take note of the importance of organized opportunities for participants to contribute their views, as well as the importance of manager supportive and facilitating role that provides participants with a framework for their empowered activities.
The third practical implication concerns the distribution of information within a project. The results of the study clearly shows that in communication process that involves project participants all parties need not be engaged directly and simultaneously in the issue of concern. The study shows that managers can achieve effective collaboration while reducing the complexity of the process of communication when they inform about and provide with updated information all participants involved in the project, while expecting them to react proactive when necessary.

6.3 Limitations of the research

The study described has its limitations. One consideration is that it was conducted in the construction projects of similar character. Tetra Pak factories construction projects clearly have specific environment in which they operate. However, projects have general setting of goals, structures, and way of participants’ involvement similar to any project of this scale. It is likely to mean that relational processes will be comparable. Although it is unlikely that relational processes in Tetra Pak projects differ fundamentally from those in other kinds of organizations, the generalizability of the findings presented here therefore remains to be tested.

It is also possible that the aspects influencing relational exchanges in short-term project setting identified here may not be exhaustive: they could be supplemented by the discovery of other aspects, perhaps through data collected from project setting of different type.

A further limitations here concern the simple division of the management incentives variable into the set of management methods that might influence relational exchanges within a project. Because of the extensive literature and data analysed, it was necessary to synthesize this material in a logical structure. Although relational exchanges can vary in sense of communication and collaboration intensity, it lays outside the scope of this study to address the issue at this level of analysis. Despite these limitations, this study has made an attempt to draw up the findings that may have some implications for both research and practice.

6.4 Suggestions for further research

This study raises some questions for future research on short-term relational exchanges. The first concerns the antecedents of relational exchanges within a project, both,
PART 6: CONCLUSIONS AND IMPLICATIONS

the business context of a project and level of participants’ previous relationship experience. Although in this study both issues have been presented as independent variables, giving from the start of the project, the level of impact of each should be discussed further. The limited case study in the present study precludes from drawing deeper conclusions about these antecedents, but it nevertheless highlights questions for future research.

Another question concerns the extent to which different management methods influence relationships that might be likely to be seen in different kinds of organizations and industries. In order to develop understanding of relational exchanges, researchers need to study the different forms it can take and examine the contexts most conducive to each one.

A third question raised by the present research involves mutual compatibility of the suggested management methods and how they relate each other. Although these dynamics were not a focus of this study, an interesting area for future research would be to examine different patterns of management solutions.

Together, these issues highlight the potential for the development of theory and research that integrate relational exchanges and sensemaking in short-term businesses. Although sensemaking and relational exchanges are distinct concepts, this study illustrates the ways in which the two are interconnected in circumstances of a project: the social processes of relational exchanges observed during the case study included participants engaging in the process of sensemaking and the ways of approaching relational exchanges that would facilitate the process of sensemaking.

Even this study highlights previously overlooked connections between literatures on relational exchanges and organizational sensemaking in short-term businesses by giving attention to a diverse range of issues, further research in this direction may be useful in deeper understanding of the processes.
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Appendix A - Internal Survey Questions

The survey determined participants’ attitudes and opinions about communication and collaboration between all involved parties under two projects that became a case study for this thesis. The result of the survey was used for analysis of the theoretical framework developed in this study and provided valuable information for conclusions and discussion.

1. Do you think that project participants do better job if they belong to different independent consult firms or if consultants of diverse disciplines work in the same organization? Does independence of participants provide better responsibility of everyone and better efficiency of the whole work? How do you describe participants responsibility for their part of the work towards other members of the project?

2. Do you think that meeting are effective working time in regards to project outcome? What does make meetings productive? How do you see on the outcome of joint meetings? What is good/bad about it? What would help to make them more effective: structure of a meeting, scope of discussion (general meetings/or specific issues with relevant participants, manner of discussion (free dialogue/or manager’s information distribution and resolution?

3. Should meetings’ participation be limited to only parties involved in decision making within a scope of discussed issues?

4. Do you think general meetings stimulate further communication among participants?

5. Do you think that consultants should have more responsibility for quality of project outcome? Should it stimulate their mutual need for communication?

6. What does influence quality of communication between consultants? (time planning of the project, competitive opportunism between consultants)

7. How to improve functionality of Project Place? Do you use all functions on PP? Is there any functions you do not know how to use? Would a use instruction improve effectiveness of communication on PP? Does Project Place provide all possibilities for information exchange? Can information be better organized in PP? Do you see any difficulties to handle information in it?

8. Do you see it possible to use PP for pre-discussion of issues that require involvement of many participants to make meetings more effective?
9. Do you see formalization of decisions and meetings’ outcomes (creating of documents, rules, instructions) as an effective tool that provides more transparency in communication and collaboration of project participants? Or does it discourage their communication and worsen project outcome?

10. Do you see face-to-face meetings as necessary part of communication between consultants? How would you value effectiveness of face-to-face communication and its impact on the outcome of the project? What would be done to improve effectiveness of this type of communication?

11. How do you see on the role of project management to organize communication between project participants?

12. Shall communication be carried only between customer (Tetra Pak) and service provider (consult) without organizing of communication between independent consultants? Or should communication between them be supported by customer active management involvement? In what form such a support could be effective?

13. How do you evaluate quality of communication between project participants? How do you see your own attitude about collaboration with other independent service providers involved in the project? What could be done to improve quality of communication? What can stimulate you to participate in communication more active?

14. Do you recognize mutual dependence of all parties involved in creating value? How to organize participants to act more responsively towards each other?

15. What do you think about information distribution and exchange among participants? What is missing? How do you see possible improvement?

16. What are barriers in communication that keep you from performing your part of the project in a best way?