Communication of Information Technology Project Sponsors and Managers in Buyer-Seller Relationships

by

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COMMUNICATION OF INFORMATION TECHNOLOGY PROJECT SPONSORS AND MANAGERS IN BUYER - SELLER RELATIONSHIPS

A thesis submitted for the degree of
Doctor of Business Administration

by

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COMMUNICATION OF INFORMATION TECHNOLOGY PROJECT SPONSORS AND MANAGERS IN BUYER - SELLER RELATIONSHIPS

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Abstract

Communication is frequently identified in the literature as a major factor impacting Information Technology (IT) project failure. The importance of communication is amplified in buyer - seller relationships through the long-term impact of project failures on the future business of IT vendors with their customers.

The formal communication between IT project sponsors from buyer firms and project managers from IT vendor firms within business to business markets is investigated through this study. Typical communication patterns between project sponsor and manager in high and low performing projects are identified. The antecedents of these patterns are assessed and the effectiveness of project sponsor - manager communication investigated. A multi-method approach is used with a quantitative analysis of a worldwide survey with 200 responses, followed by a qualitative analysis of three interviews with pairs of project sponsor and manager, each pair from the same project.

Results show that project sponsors expect more analytic and verbal communication from project managers. A model shows the development from frequent informal communication to formal communication between project managers and sponsors. A second model shows how communication in high performing projects is determined by the level of collaboration between project managers and sponsors, as well as the degree of structure in project execution. Effectiveness of project sponsor and manager communication is found to be decreased through written statements about recent achievements, and increased through face-to-face meetings of the parties. A series of recommendations is provided to improve project sponsor - manager communication.

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CHAPTER ONE – INTRODUCTION

> *Communication is certainly the essence of civilization. Without communication we could neither recognize nor share common interests, which means we could not easily cooperate in achieving mutual goals. The quality of one's communication skills is probably the most important of all traits* (PMI 1987, p. H1).

Communication is at the heart of all managerial activities. The above statement from the Project Management Institute's (PMI) *Guide to the Project Management Body of Knowledge (PMBoK)* is representative of a large amount of research studies and practitioner articles which show the importance of proper communication for successful project management. Along with its importance communication is frequently identified as a major determinant for project success or failure. Hartman (2000, p. 11) concluded from his research at the University of Calgary, Canada:

> *From the numerous failed projects examined by us, the ultimate cause of failure was always the same. Cost overruns were due to poor estimates, missed elements of scope, and more; but in the end all was due to inadequate communications. Schedule overruns were due to work being more complex than anticipated, resources not being available, the scheduler being too optimistic, and more. Yet again, when we checked, there was a breakdown in communication at some point in all cases.*

A related and spectacular example is the American National Aeronautic and Space Association's (NASA) loss of the Mars Climate Orbiter, which was caused by an error in the formal communication between two geographically separated teams. While navigating the spacecraft close to the Mars surface one team used metric units and the other team English units without formally communicating the units (only the numbers). Through that the spacecraft was brought below the minimum distance to the Mars surface, where it collapsed (NASA 1999).

Studies on the reasons for failure of Information Technology (IT) projects repeatedly show similar patterns. Examples are Oz & Sosik (2000), who identified five major factors that lead to cancellation of IT projects, with one of them being poor communication. Similarly the Standish Group (1998) compares project success with a three-legged stool, with one of the three legs being communication. Other research showed that communication beyond the boundaries of the project team has a larger impact on financial results than project team internal communication (Jiang et al. 2000, Keller 2001). Hutinski et al. (2001) identified a possible reason for this by showing that complexity levels of communication are highest during requirements specification stages and implementation stages of IT projects. In their research more than 50% of the respondents indicated moderate to great communication difficulties during these stages. An initial research on 34 IT projects during the early stages of the present study indicated that communication has the most significant impact of all PMI defined knowledge areas (i.e. in management of integration, scope, time, cost, quality, human resources, communication, risk and procurement) on cost variances in IT projects (Müller & Turner 2001). Despite communication's importance for project results the empirical research by Partington (1997) showed that projects often lack good communication beyond the boundaries of the project team.

PMI estimates that project managers communicate approximately 90% of their time (ESI 1994, citing PMI). However, a search for 'Communication' at the PMI online bookstore revealed only three books with the word 'Communication' in their title, with one addressing presentation techniques, another business writing and the third one data communication. The relation between importance of communication for project results and the quantity and quality of supporting literature in project management seems to be out of balance.

Research on communication maturity identified IT firms as being especially low in their communication maturity when compared with firms from engineering and construction, information management and movement, as well as high-tech manufacturing industries. This lack of maturity was in line with overall low project management maturity in the IT industry (Ibbs & Kwak 1997).

The present study aims to improve the effectiveness of formal project sponsor - manager communication by deepening the understanding of the complex processes underlying this communication. Effectiveness is defined as the mutual fit of communication requirements and capabilities, as outlined in Chapter 3 (Bensaou & Ventkatraman 1996, Tushman 1979). Formal communication occurs through the official communication channels given by the buyer-seller relationship (Mullins

1999a), i.e. between the project sponsor and manager as representatives of their respective organisations. Their formal communication reflects the official authority structure between the organisations, through which they provide each other with needed information in a timely manner (PMI 2000) and reduce the communication contents to project related matters concerning the organisations (Johnson 1993), thus their formal communication should follow an expressed purpose and agenda (Cooper 2000). PMI (2000) defines e.g. reports and briefings as indicative of formal communication, whereas ad-hoc conversation is seen as informal communication. Formal situations and the associated communication are often referred to as regimented, deliberate and impersonal in nature; as opposed to informal communication which occurs in situations of behavioural spontaneity, casualness, and interpersonal familiarity (Morand 1995). Speakers in formal communication situations are more committed to the topic they communicate than to the relationship between the communicating parties, whereas in informal communication they are more committed to the relationship than to the topic (Mead 1990). While formal communication is perceived as slow in speed and high in accuracy, informal communication is seen as high in speed and low in accuracy (Mullins 1999a). This is supported through research by Johnson et al. (1994), which showed that formal communication is perceived as being more credible than informal communication. This also explains research results which showed that managers receiving formal project reports feel more ‘in control’ of the project (Kraut & Streeter 1995). A summary of the differences of formal and informal communication is provided in Table 1-1.

Peoples’ perceptions about what constitutes formal communication, as opposed to informal communication, are formed through context factors such as culture and the situation within which their communication occurs (Mead 1990). That implies that the borderline between formal and informal communication in the daily work of project sponsor and manager is blurred. As will be seen this is also supported by the results of the study. To identify those communication practices yielding highest credibility and accuracy the study excludes, to the extent possible, informal communication, which among others include body-language, grapevine, rumors, and politics. The study focuses on formal communication as described above, being aware that a distinction from informal communication is often subjective and situational.

Characteristic	Formal communication	Informal communication	Source
Situation	Regimented, deliberate, impersonal	Casual, spontaneous, interpersonally familiar	Morand (1995)
Commitment	Higher for topic than for relationship	Higher for relationship than for topic	Mead (1990)
Credibility of contents	High	Low	Johnson et al. (1994)
Style	Reports, briefings, etc.	Ad-hoc conversations, memos, etc.	PMI (2000)
Speed	Slow	Fast	Mullins (1999a)
Accuracy	High	Low	Mullins (1999a)

Table 1-1: Differences between Formal and Informal Communication

The study uses two complementary methodologies. A quantitative methodology based on a worldwide survey and a subsequent qualitative methodology with a set of structured interviews. The triangulated results show opportunities for improvement of communication effectiveness, because of project sponsors' significantly higher preference for analytic contents and verbal media. Antecedents for the choices of contents, frequency and media differ. Sponsors choices are driven by past experiences and managers' by project risk. Effectiveness of communication is negatively impacted by qualitative statements about *status and recent achievements* in written reports send by project managers, and positively impacted by face-to-face meetings between the two individuals. A model for buyer-seller communication identifies communication along a continuum of increasing sponsor - manager collaboration. High performing projects exhibit an additional dimension reflecting the level of rigid operational structures within a project. These two dimensions are balanced through a written communication between sponsor and manager in 2 - 4 weeks intervals. The model provides guidance in identifying reasons for deviations from this balance.

The findings of the study accumulate in a series of recommendations that can be used by project sponsors, managers and IT firms to improve their communication practices in order to prevent from project failure and provide for long lasting, profitable business relationships.

1.1 Background

The importance of communication is not new. Already the first article on *The Project Manager* in Harvard Business Review (Gaddis 1959) identified the need for careful preparation and explanation of all communication in order to achieve acceptance from those involved in a project. Since then project management has developed into a worldwide profession with several Bodies of Knowledge (BoK) (Turner 2000). These BoK's describe the generally accepted knowledge and practices applicable to most projects most of the time (PMI 2000). The definitions of the terms project and project management vary among the different BoK's and along the timely evolution of the project management profession. The most recent definition of a project integrates the common view of projects as unique undertakings with recent organisational developments in the industry towards more project oriented organisation and management structures (Turner & Müller 2003, p. 7):

> *A project is a temporary organisation to which resources are assigned to undertake a unique, novel and transient endeavour managing the inherent uncertainty and need for integration in order to deliver beneficial objectives of change.*

Project management is defined as the application of management techniques, knowledge, skills and tools to achieve a project's objectives (IPMA 1999, PMI 2000).

Along with its professional development project management became the basic building block in the strategic management of products and services firms (Cleland, 1991). Projects are the object of exchange, where buyer firms procure complete technological solutions as projects to address their business problems. These buyer - seller relationships involve not only the exchange of products and services for money, but also social interaction and other interactive processes (Halinen 1997).

The responsibility for a project's success within a buyer firm lies typically with the Project Sponsor, who holds the business case (Morris 1998) and provides the link between the project and the customer's senior management (Wideman 2000). Partington (2000) defines two roles of a project sponsor. These are a) to ensure the project aligns with the firm's strategy from inception of the project and throughout its lifecycle, and b) to accept primary responsibility for the delivery of the project. For that the project sponsor provides the financial resources for a project, accepts project milestones and project completion (PMI 2000), and is accountable to the buyer organisation's management for the investment in the project. He or she monitors and approves forecasts and plans (Harpham 2000) and eventually receives the value of the project (Turner 2000). Research by Crawford and Brett (2000) showed that sponsors take on additional responsibilities in form of political support of the project, consultation prior to project manager decision making and subsequent ratification, provision of objectives and resources, responsibility for project scope and to a minor extent management of issues and risks. The project manager of the selling organisation acts on behalf of the sponsor and manages the planning and implementation stages of the project. Through that the project sponsor delegates the responsibility for the day-to-day management of the project to the project manager. While monitoring the project manager the sponsor takes on a mentor role which requires the belief in the project manager's ability to manage the project, patience in watching execution, and the vision to differentiate between one-time and mortal failures of project managers (Nonaka & Takeuchi 1995, citing Lee, 3M). Project Managers are the individuals to manage the project towards the agreed objectives (APM 2000, PMI 2000). So *why* the project is done is a sponsor responsibility, and *what* the implementation entails is a project manager responsibility (Partington 2000).

IT seller firms establish project teams as temporary agencies to achieve project specific objectives, and appoint project managers to manage the projects on their behalf, often at the customer's site (Turner & Müller 2003). The respective position of buyer and seller in a project leads to different perceptions of the project (Bacharach & Lawler 1980). The meanings generated by the representatives of these positions are found to be unique and not identical (Shulman 1996).

The project manager's organisational position relative to the employing organisation, the customer and the project, is one of in-between the employing organisation and the customer, but close to the project. This creates a perspective of 'customer-focused delivery of what is contracted' for the project manager, which is different from the buying firm's project sponsor perspective who perceives the same project from an intra-company change management perspective (Partington 1997), of which the IT system may only be a minor part and required to be flexible in adapting to the higher objectives of the overall project. This conflict needs to be solved through communication. As representatives of their respective organisation project sponsor and manager have overlapping membership in both organisations (Eisenberg et al. 1985) and need to integrate different requirements stemming from their different perspectives. Through their mutual communication they balance their organisation's requirements.

1.2 Scope and Underlying Assumptions of this Study

The unit of analysis is the formal communication of project managers from IT vendor firms with project sponsors from buyer firms. The scope of the study excludes all non-project and non-work related communication, as well as a detailed investigation in informal communication. As such the scope is constraint to communication that officially takes place between buyer and seller and, at least in case of written communication, is stored on enduring media where it remains auditable e.g. in case of litigation or legal actions between the parties.

Two assumptions underlie the present study. First, that the project manager and sponsor have free access to the three media types assessed, these are personal communication, verbal communication and written communication, with the latter one including electronic mail. This follows earlier studies in media usage (Rice & Shook 1990).

The second assumption is a sufficient level of computer literacy and technical proficiency on the side of project sponsor and manager to handle e-mail, voice mail and possibly video-conferencing. The study's scope is limited to IT projects only, so a minimum level of computer literacy can be assumed both on the buyer as well as the seller side.

1.3 Organisation of this Study

The study is executed in a nine step process derived from Remenyi et al.'s (1998) eight step process. Figure 1-1 shows the three main phases of preparation, execution and conclusion, which were operationalized through nine distinctive steps in a partly iterative manner.

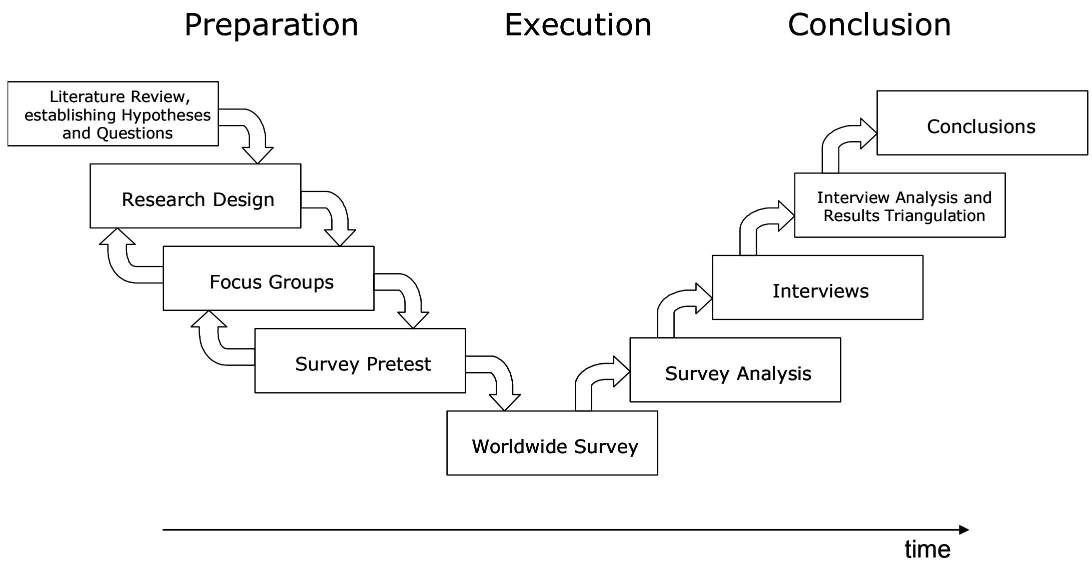

Figure 1-1: Research Process

The preparation phase consisted of the literature review with subsequent development of research questions, hypotheses and research model. Two focus groups were setup to validate the research model and survey instrument, as well as to pre-test the questionnaire. During the execution phase a worldwide Internet based survey and subsequently three interviews with pairs of project sponsor and manager of the same project were held and the collected data analyzed. The conclusion phase comprised the triangulation of the results and the development of conclusions and recommendations for project sponsors and managers for the improvement of their communication.

The organisation of this thesis follows the research process described above. Chapter 2 starts with an outline of the buyer – seller theories underlying this study. A subsequent literature review summarizes the recommendations for sponsor - manager communication from the existing project management literature. This is followed by a review of organisational communication research as well as organisation structure theory as it relates to communication. Within Chapter 3 the research model, research questions and hypotheses are developed. Chapter 4 describes the methodology used and the survey sample. The chapter starts with the methodology selection and the associated philosophical basis. The execution of the research model is described in the remainder through the work with the focus groups, the development of the survey instrument and interview questions, as well as the quantitative and qualitative approaches to analyze the data. Furthermore, the data collection process, sampling frame and sample are described. Chapter 5 provides the quantitative and qualitative analyses of the data. The interpretation of the analyses results is done in Chapter 6, where also the study’s contribution to knowledge is outlined. Chapter 7 concludes the study by summarizing the results and linking them to prior research. The chapter also provides a series of recommendations for project sponsors and managers on how to improve their communication for the benefit of their joint projects. The study closes by outlining the strength and limitations of the research, as well as the implications for further research. The survey instrument, interview guide, as well as the tables and figures from the quantitative and qualitative analyses are provided in the Appendices.

CHAPTER TWO - LITERATURE REVIEW

This chapter reviews and summarizes the literature on formal buyer – seller communication in project management. The chapter starts with a review of two buyer – seller theories to establish the initial perspective of the research. This is followed by a review of literature from project management, organisational communication and organisational structure theory as it relates to the communication problem stated in Chapter 1.

The terminology used follows Wideman's (1991) suggestion with the buyer organisation being represented by a project sponsor, and the seller – or implementer – organisation being represented by a project manager. The terms *buyer - seller* and *project sponsor - manager* are therefore used synonymously throughout the study.

2.1 Inter-firm Relationship Theories

To address the complex issue of research in inter-firm relationships it is helpful to refer to existing theories which explain the factors that govern these relationships. As outlined in the Introduction, this study's unit of analysis is the communication between project sponsor and manager during IT project implementation in a buyer – seller relationship. Established inter-firm relationship theories that match this level of analysis are Transaction Cost Economics and Agency Theory (Williamson 1995). They are introduced in the following sections.

2.1.1 Transaction Cost Economics (TCE)

TCE focuses on the level of individual transaction which converts 'input' to desired 'output', e.g. the implementation of a new IT system to improve a company's internal efficiency. TCE is rooted in economic theory and explains the decision to 'make' a product in a firm's own hierarchy or 'buy' it in the market. The former case provides for better control of 'fit for purpose' or lowering of maladaptation costs of the product at generally higher management costs, whereas the latter case provides for lower prices through economies of scale and price competition in the market. According to

Williamson (1975) the make or buy decision is based on the combined ramifications of:

- the degree of asset specificity as the main influential factor. This is the extent to which the object of the transaction is specific (or unique) to the individual transaction and can not be redeployed in future transactions
- the degree of uncertainty which arises a) from a lack of communication or conscious supply of false and misleading signals, preventing a decision maker finding out about the plans made by others in the transaction; and b) the general uncertainty in human behaviour; as well as c) the general risk of the undertaking
- the frequency of the transaction. TCE was originally developed for repetitive, routine transactions, undertaken by the classically managed organisation in functional and hierarchical structures. Within these repetitive transactions no specialized governance structures are required, whereas highly unique transactions demand specific management structures.

Through that TCE '*regards a firm as a governance structure, rather than a production function'* (Willimason 1985, p. 387). The costs for governing these transactions are defined as transaction costs, where:

> *Transaction costs are economized by assigning transactions (which differ in their attributes) to governance structures (the adaptive capacities and associated costs of which differ) in a discriminating way* (Williamson 1985, p. 18).

TCE proposes that firms adapt their governance structures to achieve the lowest expected transaction costs. Transaction costs are regarded as the economic equivalent to friction in physical systems, stemming from the complexity of the relationship between buyer and seller organisations and the impossibility to develop and agree on contracts comprehensive enough to structure the relationship in an all comprehensive manner. To economize on transaction costs TCE proposes that high levels of asset specificity, uncertainty and contract incompleteness lead to 'make' decisions, whereas low levels lead to 'buy' decisions (Adler et al. 1998).

A central issue in TCE is the difficulty of mutual assessment of the performance of transaction partners (Rindfleisch & Heide 1997). The need for performance assessment and control derives from the buyer's desire to control progress (Levitt et al. 1999). The procedural mechanism to satisfy this need is through formal communication between representatives of the buyer and seller organisation, which are the project sponsor and the project manager respectively. The extent of their collaboration and mutual satisfaction of communication requirements determine the transaction costs to a large extend. That identifies the relationship between project sponsor and manager as a major factor impacting transaction costs. A specific dimension, covering the relational aspects of TCE was developed by Heide & John (1992) through their concept of Relational Norms. Here norms are defined as at least partially shared expectations about behaviour within a group of decision makers. Relational exchange norms are

> *...based on the expectations of mutuality of interest, essentially prescribing stewardship behaviour, and are designed to enhance the wellbeing of the relationship as a whole* (Heide & John 1992, p. 34).

Evidence from their research shows that 'relationalism' is built through three different though related domains, such as:

- flexibility, which is the bilateral expectation of willingness to make adaptations as circumstances change
- solidarity, is the bilateral expectation that a high value is placed on the relationship and that the behaviours of buyer and seller are directed towards maintenance of the relationship and avoidance of behaviour detrimental to the relationship
- information exchange, is the bilateral expectation that parties will proactively, frequently and informally provide information useful to the partner.

Relational norms are the mechanisms that provide the *ability* to implement governance structures in projects, whereas the TCE domains of asset specificity, uncertainty, and frequency are the mechanisms to *motivate* firms to structure their relationships in a particular way (Heide & John 1992).

Even though TCE is criticized for its crudeness in the form of primitive models, underdeveloped tradeoffs, severe measurement problems and too many degrees of freedom (Williamson 1985) it is frequently used as a theory to address research issues and explain marketing phenomena.

A complementary and conceptually closely related approach to TCE is that of Agency Theory, which will be described in the next section.

2.1.2 Agency Theory

TCE and Agency Theory both explain transactional governance mechanisms in relation to transaction costs. The focus of agency theory is the potential for conflict of interest that arises in a principal and agent relationship. This potential conflict arises when one party (the principal) depends on another party (the agent) to undertake some action on the principal's behalf (Bergen et al. 1992, Jensen 2000). The delegation of decision making authority from principle to agent is assumed problematic because:

- the interest of principal and agent will typically diverge if both are utility maximizers
- the principal cannot perfectly and costlessly monitor the actions of the agent
- the principal cannot perfectly and costlessly monitor and acquire the information available to or possessed by the agent (Barney & Hesterly 1996, Jensen 2000)

Agency theory includes employment relationships, e.g. a project manager employed by an IT vendor. The management of project managers, especially when working at remote customers sites, therefore becomes an agency problem. Agency theory addresses the problem of conflicting interests as a contracting problem between principal and agent. Two scenarios are distinguished, these are

- the pre-contractual problem when a principal has to select and offer a contract to an agent suitable for the task. This is often referred to as a 'hidden information', *ex ante*, or adverse selection problem. It addresses information asymmetries between principal and agent, where the principal is assumed to know the nature of the task the agent should perform as well as the personal characteristic needed to perform this task.