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Business relationships during project afterlife: antecedents, processes, and outcomes.

Corresponding author: Ilkka Ojansivu

Oulu Business School, Department of Marketing

P.O. BOX 4600, 90014 University of Oulu, Finland

Tel. +35844-3072449

Fax: (08) 553 2906

E-mail: ilkka.ojansivu@oulu.fi

Kimmo Alajoutsijärvi

Jyväskylä University School of Business and Economics

Finland

Tel. +35840-5047418

E-mail: kimmo.alajoutsijarvi@jyu.fi

Jari Salo

Oulu Business School, Department of Marketing

P.O. BOX 4600, 90014 University of Oulu, Finland

and

Aalto University School of Business

Tel. +35844-3072449

E-mail: jari.salo@oulu.fi

Abstract

Post-project buyer-seller interaction has been studied by the project marketing research stream, but mainly from the perspective of social exchange and sleeping relationships. With the advent of service-intensive projects, however, a whole new breed of post-project business relationships is unfolding and demanding research attention. In this study, we develop a conceptual research framework capable of illustrating the path from the initiation of a relationship through to a project's afterlife. This framework is a step towards a coherent theory of post-project business relationships, and contributes to that area of project marketing research focusing on post-project interaction. By employing a comparative case study approach, we are able to showcase four illustrative post-project relationships in practice and demonstrate their managerial relevance. We see these emerging business relationships as an encouraging avenue for future project marketing research.

Keywords buyer-seller relationships, project marketing, service-intensive projects, project after-life, interaction

Introduction

Over the last twenty years, services have become a central part of project business (Artto *et al.*, 2008; Davies *et al.*, 2007; Kujala *et al.*, 2013) and many project-based companies earn greater revenues from project-related services than from delivering a project (Davies, 2004; Gebauer *et al.*, 2010; Penttinen and Palmer, 2007). We call these projects *service-intensive* as they include a wide variety of services from basic maintenance to more sophisticated development and consulting.

One of the most successful examples of this recent development is the Kone Corporation, which has transformed the highly volatile elevator and escalator project business into a very profitable maintenance service business (see Gebauer *et al.*, 2010; Salonen, 2011). Its customers would not list the main product lines of Kone, escalators and elevators, among their core activities but would perhaps acknowledge them as just part of their visible infrastructure. In the case of other service-intensive project businesses, such as paper machines, which are both highly customized and critical to paper manufacturers, building a long-term post-project service exchange relationship is more challenging than it would be for a company supplying elevator maintenance services. In this case, as the service relationship goes to the core of the business activity, it requires strategic thinking and a long-term service contract enduring perhaps decades after initial delivery, taking it beyond the scope of a simple outsourcing decision for the buyer. These relationships resemble neither those that follow a linear development (e.g., Dwyer *et al.*, 1987; Ford, 1980) nor the ‘sleeping’ variety (Hadjikhani, 1996), but are a specific breed apart (Ojansivu *et al.*, 2013).

The question of project afterlife, and especially the influence of services on it, has been largely ignored in the project marketing research (Cova and Salle; 2011, pp. 404-405; Mandják and Veres, 1998; Söderlund, 2011, p.52). The reason for this has to do with the challenges associated with post-project interaction that extends beyond merely its social dimension (Cova and Hoskins, 1997; Skaates *et al.*, 2003). Hence, the research focus has been directed to such concepts as sleeping relationships (Hadjikhani, 1996); milieus (Cova *et al.*, 1996); the ritual approach (Cova and Salle, 2000); and project networks (Mele, 2011; Owusu and Welch, 2007) as the means available to continue the relationship in the absence of economic exchanges and structural ties (Cova and Hoskins, 1997; Skaates *et al.*, 2003).

As economic exchange rarely ends with delivery in contemporary projects, we argue that the focus of project marketing needs to be extended. It should not center on ‘overcoming’ periods of discontinuity (Jalkala *et al.*, 2010), but address the opportunities for post-project interaction. Alderman *et al.* (2005) offer an example of these prospects by describing a train project in the UK worth 1.8 billion euros, of which a 12-year service contract accounted for 912 million euros. It then becomes crucial for project marketing researchers to ask, how do companies move beyond the social aspects of post-project interaction, to achieve long-term service exchange? Unfortunately, the recent review by Söderlund (2011) suggests that project marketing is still very much dedicated to the ‘overcoming’ approach. So far, the main theorization of post-project interaction is what is referred to as

the sleeping relationship (Hadjikhani, 1996), which calls for more variety when categorizing different post-project relationships. In the context of service-intensive projects such as paper machines, wind turbines and content management systems, the product life cycle might last decades, which translates into extremely long service relationships (Filiatrault and Lapierre, 1997).

This study addresses the research gap through two questions; the first asks what kinds of post-project relationships there are in service-intensive projects, and the second, what are the antecedents and processes leading to their development. From the theory development point of view we initially argue that service-intensive projects create a unique platform upon which post-project interaction can develop, as potential discontinuity is a pivotal transformation point defining future exchange, coordination and adaptation within the relationship. Furthermore, we argue that the future of the relationship becomes dependent not only on social relationships but also on the seller's ability to offer versatile services and the recipients' relationship experience, interaction orientation as well as post-project expectations. These services, particularly development services, are at the core of relationship-specific investments (Lohtia & Krapfel, 1994) that have the potential to create structural ties (Holmlund & Törnroos, 1997) and bind firms together (Ojansivu et al., 2013).

We adopt concepts from interaction research (e.g., Brennan and Turnbull, 1999; Hadjikhani and LaPlaca, 2013; Håkansson, 1982; Möller and Wilson, 1995; Ring and Van de Ven, 1994) to construct a research framework that suggests four post-project relationships. Subsequently, a comparative case study is conducted on theoretical grounds, as Siggelkow (2007) suggests, to motivate and inspire the reader, and illustrate how the theory works in practice. First, we motivate the reader by pointing out the shortcomings in the theory to date, i.e. the influence of services has not been incorporated into the study of post-project interaction. Second, we inspire new ideas by adopting well-defined interaction concepts in a new context. Finally, and most importantly, we seek to demonstrate the theoretical framework in practice, and to show four potential relationship development paths from their initiation through to the project's afterlife.

The research findings are important for theory development, as the focus of project marketing extends from sleeping relationships to managing other kinds of post-project relationships. Each illustrative relationship can be used as an umbrella category to map various post-project relationships in a company's account portfolio. This is crucial, since the management has to be capable of aligning structures and activities developed during project implementation with a project's afterlife. For managers, it is central to be sensitive and flexible in order to deal with different forms of post-project relationships and avoid potential mismatches between counterparts.

This paper is structured as follows. The research framework of the study is introduced in the following section. It is followed by an empirical investigation of post-project relationships using a multiple case study method. We conclude by analyzing our case findings and proposing both managerial and theoretical implications.

Literature review and research framework

Relationship antecedents

Trust and commitment play a crucial role in achieving long-term buyer-seller relationships (Anderson *et al.*, 1994; Anderson and Weitz, 1989; Hadjikhani and LaPlaca, 2013; Morgan and Hunt, 1994), and achieving trust and commitment takes time, as they are qualities typically associated with the latter stages of relationship development (Dwyer *et al.*, 1987; Ford, 1980; Scanzoni, 1979). This makes the time period before any formal agreement is concluded between the project buyer and seller in service-intensive projects interesting. Commissioning a project most likely entails service elements, which require a service contract. Therefore, a buyer will be sensitive and looking for clues that signal the level of the supplier's commitment. Without a certain level of mutual understanding and trust, the buyer is not willing to commit, since the latter is aware of the fact that the services create an inevitable dependence on the supplier, in terms of its willingness and capability to extend the lifespan of the product (Wetzels *et al.*, 1998). This, of course, depends on the product characteristics and the buyer's expectations of the post-project stage.

In an extreme situation, the buyer might decline to sign any service contract and settle for a warranty period. Alternatively, the buyer may wish to purchase maintenance services in order to 1) minimize the total cost of ownership (TCO) 2) maximize the product life cycle (PLC) by developing the product further, or 3) contracting for consultation services and develop the business relationship to achieve mutual benefits beyond the merely product related (Helander and Möller, 2008; Mathieu, 2001; Matthyssens and Vandembemt, 2010). At the same time, the seller might have its own expectations, and might assume a greater or lesser role in the customer's business processes and value chain, that might include a safeguard function or other indirect-functions (see Walter *et al.*, 2001). It is likely that the more central the services offered by the seller are to the buyer's core business processes, the more sensitive the buyer will become. If the service targets life cycle partnerships that encompass the whole lifespan of the product, the buyer is not likely to enter into cooperation in the absence of a prior history with the seller or other experience of its capability.

The buyer or seller experience of the other party can be divided into performance and psychosocial components (Möller and Wilson, 1995, p. 43; Selnes, 1998) and into individual, intergroup and inter-organizational levels (Andersen and Kumar, 2006; Ritter and Gemünden, 2003). In this research we focus on the individual and collective levels, the second of which combines the intergroup and inter-organizational levels. Satisfaction on the level of performance or economics refers to the effectiveness and productivity gains or losses of each participant and can be associated with the functionality of the exchanged product or service (Geyskens *et al.*, 1999). Psychosocial or non-economic satisfaction covers a broader range of aspects, as it refers to overall satisfaction with the business relationship and its reciprocal nature (Anderson and Narus, 1984). We argue that the more valuable the seller's services are for the buyer's core business, the more critical the psychosocial component and the collective level are for the buyer. This is due to the overlapping activities of the customer and the supplier; the more business processes and parts of the customer's value chain are affected by the supplier's services, the more the customers' employees will be involved in and influenced by the process.

Relationship experiences refer not only to relationship-specific learning but also to knowledge accumulated in various buyer-seller relationships (Håkansson and Waluszewski, 2013; Möller and Wilson, 1995). Over time, firms can begin to follow a certain *interaction orientation* that indicates their behavioral tendency to favor certain interaction characteristics that can be either competitive, cooperative, cooperative and dominance or something between those extremes (Alajoutsijärvi *et al.*, 1999; Alajoutsijärvi *et al.*, 2001; Bengtsson and Kock, 2000; Campbell, 1985; Easton and Araujo, 1992). These four relational types are interesting in this type of business, since more or less abstract service features complicate the development of linear relationships and the predictability of joint activities. It is necessary, then, that the buyer and seller have roughly similar interaction orientations in order for the parties to reach an agreement.

Relationship processes

If the post-project expectations, relationship experiences, and interaction orientations of the buyer and seller overlap sufficiently, the interaction processes can begin. Generally speaking, interaction in a buyer-seller relationship can be described with reference to three basic processes: an exchange process, a coordination process, and an adaptation process (e.g., Håkansson, 1982; Möller and Wilson, 1995). Exchange is usually described as consisting of four types of elements: product or service exchange, information exchange, financial exchange, and social exchange (Håkansson, 1982, p. 16). In our framework, developed exchange is described as discontinuous, continuous, stable or institutionalized (see Ford, 1980; Håkansson, 1982, p.17; Möller and Wilson, 1995; Ring and Van de Ven, 1994).

Adaptation processes refer to actions that interacting parties perform in order to derive benefit from the exchange relationship. These actions can include modifications of resources, skills, operations, and even of goals, attitudes, and managerial values (Brennan and Turnbull, 1999; Möller and Wilson, 1995, p. 27). Adaptations requiring relationship-specific investments (RSI) may lead to increased relative dependence and high switching costs between the interacting parties. Non-retrievable investments are the relationship-specific commitment of resources that cannot be recovered if the relationship ends (Wilson, 1995). In the framework, four types of adaptations are taken into account: low, one-sided, and mutual RSI, and complete lock-in, which refers to a state of far-reaching interdependence between the parties.

Coordination processes are mechanisms that facilitate the control of exchange processes. These mechanisms include decisions, rules, and procedures as well as the terms of trade that each contributes to the efficiency of the relationship (Möller and Wilson, 1995, p. 27; Ruckert and Walker, 1987). To analyze coordination and to expose the issues it causes management, we divide coordination into four types: simple, moderate, complex, and complex & ad hoc.

Relationship outcomes

We propose four buyer-seller relationships as outcomes of the interaction processes. The first is the *sleeping relationship*. The term sleeping relationship dates to the beginning of the 1980s, and

the studies of Palmer et al. (1986) on the relationships between actors and movie producers. In project marketing research, the term sleeping relationship was first used in the mid-1990s by Hadjikhani (1996) to describe the discontinuity of buyer-seller relationships after the completion of projects. We use the term in a similar manner to describe a post-project buyer-seller relationship in which financial exchanges have ceased, but which continues to exist because of social bonds, prospective project sales, and reference value. The second buyer-seller relationship is referred to as a *passive relationship*. In this relationship, the buyer expects maintenance services from the seller in order to minimize the TCO. The product and its related services have, however, only a minimal role for the buyer's core business. We call the third buyer-seller relationship an *active relationship*. When the buyer and seller are engaged in an active relationship they have agreed on the terms of a full service contract. The buyer expects the seller to offer development services lengthening the life cycle of the product, which is linked to the buyer's core business processes, but to only parts of its value chain. The last relationship is referred to here as an *interactive relationship*. It is the most challenging relationship to establish and maintain in the service-intensive project business. In this relationship, the buyer's expectations go beyond product-related benefits to encompass a reciprocal business relationship. Buyer and seller are interested in developing a long-term partnership that has far-reaching implications for their core business processes and entire value chain. The service exchange includes product-related maintenance and development, but also more business-centric consultation. This relationship requires that the participants' commitment go past the technology supplied in the project to include the shared future of their core business. Figure 1 presents the research framework for the study.

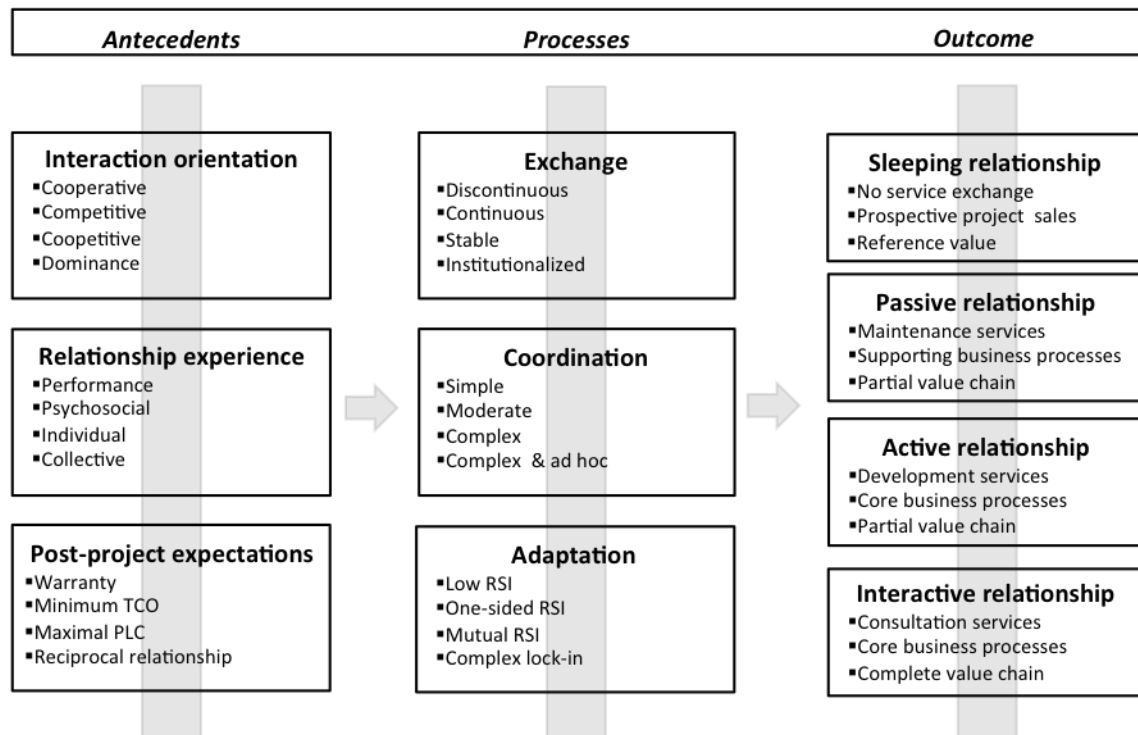


Figure 1. The antecedents, processes, and outcomes of buyer-seller relationships in service-intensive projects.

In the following section, we examine the preliminary validity and usefulness of the research framework in an empirical setting through a multiple case study. The role of the framework is to enable detailed analysis of the cases with clear reference to theory. We acknowledge the novelty value of service-intensive projects and accordingly describe the context of each case in detail.

Methodology

This section highlights the relevance of the theoretical framework outlined in the previous section in a business context using a multiple case study. We contrast the outcomes of the framework (four post-project relationships) with our empirical findings.

As the aim of the research is to develop a conceptual framework, we employ a comparative case study (Cunningham, 1997; Eisenhardt, 1989). We recognize the importance of case selection and take into account the advice offered on the topic in the literature (Eisenhardt, 1989; Pettigrew, 1989) while following Romano (1989) in thinking that the decision of which particular cases to select is one for the researcher alone. We have chosen the cases on theoretical grounds (Glaser and Strauss; 1968, p. 49; Stake, 1995, p. 4) in order to highlight the research framework in practice, and to illustrate post-project behavior, and therefore, the purpose is primarily descriptive.

Furthermore, each case reflects a different industry, and we suggest this makes the analysis more compelling.

The cases are also used for another purpose. Even with a limited sample, we can attempt to evaluate the validity of the chosen theoretical concepts, albeit in a preliminary fashion. This can be achieved by examining whether the proposed concepts are useful in interpreting the potential development paths in post-project relationships, whether some of the concepts are superfluous, and whether it becomes necessary to construct new concepts to describe the phenomenon. In this sense, we can even attempt to utilize the cases towards tentative theory construction.

Our cases were selected from among dozens of projects within various industries that we have studied on previous occasions. Our cases were not randomly chosen, but carefully selected from the theoretical perspective allowing us to gain certain insights that other cases would not have been able to provide (Siggelkow, 2007). The methodology used follows abductive reasoning (Dubois and Gadde, 2002; Peirce, 1958), where both theoretically deduced dimensions and empirical material are used. The data were collected during several research projects covering project business firms in industries such as the engineered wood industry (e.g., McKeever, 1997), process solutions for the mining industry (e.g., Mudd, 2010), the wind turbine business (e.g., Traber and Kemfert, 2011) and the paper machinery industry (e.g., Lamberg and Ojala, 2006). The main data source used to describe the interaction was the semi-structured interviews summarized in Table 1 (Arksey and Knight, 1999; Kumar *et al.*, 1993).

Table 1. Interview data

The choice of informants was premised on the principle that information is best elicited from people who have knowledge of the phenomenon to be studied. All interviews were taped with the interviewees' permission and then transcribed and analyzed accordingly. Qualitative data analysis was employed to thematize the material (see, Miles and Huberman, 1984). Researchers scrutinized documents, minutes of meetings, industry reports and firm visits to triangulate the respondents' answers, as suggested in the literature (Denzin, 1978; Patton, 1987). Recursive stages were used in the data analysis; first the material relating to the post-project stage was extracted, following thematization according the preliminary theoretical conception, which allowed the researchers to iteratively link data to theory, and finally conceptualize the research framework. Thus, the principles of systematic combining were followed (Dubois and Gadde, 2002). The results are presented in the next section. To maintain confidentiality, the true identities of the firms and the respondents have been withheld.

Four project buyer–seller relationship cases

Case A: An engineered wood solutions supplier and customers

Our engineered wood solutions supplier provides a variety of traditional wood products to customers in the UK and other areas of Europe. Since early 2000, the firm has shifted from traditional wood products to engineering various environmentally friendly wood solutions (from different types and grades of wood) for its customers in the construction industry. Typical relationships between the firm and its buyers last from project initiation to the conclusion of the project. The wood industry has gradually moved to adopt different types of services in its ecosystem (Sathre and Gustavsson, 2009), but these do not yet form part of the firm's offering. Thus, its relationships with its customers (typically construction firms) become dormant after project delivery, while the firm waits for new customer projects to arise from sleeping relationships or from new customers. The firm relies on current and sleeping customers to act as a reference to help it acquire new customers.

Case analysis: The first case illustrated the sleeping relationship. Construction firms select suppliers based on tendering processes. In addition to references, price is one of the dominant factors in the decision-making process. The construction firm buyers state when, where and at what price wood solutions will be purchased and they expect timely delivery and high quality solutions. Exchanges between buyer and seller end after project delivery and can be described as discontinuous. During the project delivery phase, both interacting parties coordinate the project delivery, but the seller is the more active in the process. Usually the seller adopts the buyer's *modus operandi* by, for example, utilizing a specified IT system for reporting. Thus, adaptation occurs one-sidedly with low RSI on either side of the relationship.

Case B: A chemical solutions supplier and a mining company

The seller is a global supplier of chemical solutions to customers from various industries such as paper, oil, and mining. The customer is an internationally recognized mining company focusing mainly on nickel and zinc. For the mining company, the chemical supplier offers water treatment solutions that are used in ore processing, production and refining and also in wastewater treatment.

The mining segment presents a fairly new business area for the seller, but as environmental legislation becomes stricter and the public becomes more aware of environmental issues, water-related solutions are becoming more important for mining companies (Akcil and Koldas, 2006; Chong et al., 2010). In this case, the customer is using a specific treatment to leach nickel requiring substantial amounts of tailings water, and thus a project with the seller was initiated in order to develop tailored water treatment solutions.

The customer was not, however, used to working so closely with its chemical suppliers, as the basic chemicals it required were typically acquired through an intensely competitive procurement process. The situation was awkward since the parties would intensively develop a new solution for a project, but at the same time, the seller would be competing with other suppliers for the basic chemical supplies contract. Despite this issue, the project proceeded well and the results were encouraging. This led to the establishment of a maintenance contract that included regular weekly

visits to the customer site, overseeing of the equipment and testing of the tailings water. The buyer, however, did not view these services as adding direct monetary value, but rather as a necessary precaution to avoid environmental problems. Therefore, the customer focused on developing its core processes, and post-project exchanges with the seller remained modest.

Case analysis: The second case illustrated a passive relationship. After the successful delivery of a tailored water treatment solutions project, interaction continued in the form of maintenance service exchanges. The interaction orientation resembled a combination of the cooperative and competitive, as the parties shared a common project history and the seller oversaw the maintenance activities, while simultaneously competing with others to meet the buyer's basic chemical needs. The challenge for the chemical supplier was that it did not consider the tailored water treatment solutions and related services to be central to its core business. As a result, RSI remained low and the relationship continued passively, requiring only moderate coordination efforts organized by the seller's after-sales unit.

Case C: A wind turbine part supplier and a wind turbine manufacturer

The customer is an international firm that manufactures, supplies, installs, and offers maintenance services for wind turbines. The seller is an international manufacturer of frequency converters and generators for wind turbines. It offers design, development, education, and maintenance services for its customers, who are predominantly large wind turbine manufacturers.

Wind turbine manufacturers typically use several subcontractors, but there are five or six critical components in a wind turbine that require partnership-type cooperation. The complexity of those same five or six components that demands cooperation by subcontractors also means that they are likely to be responsible for 90% of failures disabling the turbines. Frequency converters and generators belong to this category, and therefore development projects for them are scrutinized intensely by the customer (see, Baroudi et al., 2007).

Every wind farm differs depending on the local temperature, wind direction, humidity and other climactic variables. Therefore, a prototype wind turbine needs to be designed and tested before serial production can be started. The prototype project tends to last up to three years and the following serial production from six to twelve months. However, the lifespan of a wind turbine is around 20 years, which requires a long-term commitment to after-sales and maintenance. In fact, the post-project stage does not end before the wind turbine is replaced or decommissioned. Once the prototype project is delivered to and approved by the customer, the seller takes care of installation, training, provision of spare parts and on-site metrics. Furthermore, the development activities between customer and seller continue as well, because the technologies develop rapidly, and competition for more powerful wind turbines is intense.

Case analysis: The third case illustrates an active relationship, where the project continues due to a diverse service exchange. Both parties were dependent on each other and committed to the relationship. The wind turbine manufacturer needed spare parts and maintenance services from the

part supplier in order to meet the utilization rates agreed with its customers, which required carefully planned coordination. For the part supplier, maintenance services balanced out the irregular prototype project sales, thus creating stability. Additionally, the seller sold development services to further develop the frequency converters and generators for future wind farms. The seller was aware of how crucial it was to gain the trust of the customer since the frequency converters and generators were critical for the customer's business, and thus the psychosocial aspect of the interaction featured strongly. Even though the seller had a central role in the buyer's core business, it only influenced parts of its value chain. It enabled the buyer to develop its operations and guarantee a certain utilization rate for its customers, but cooperation did not extend beyond the mere product related activities.

Case D: A Finnish paper producer and a paper machine manufacturer

The seller's paper mill was one of Finland's leading paper manufacturers in the 1950s. It belonged to the Finnish Corporation, which in turn was one of the largest forestry industry firms in Europe. The mill commissioned a major rebuild of two papermaking machines in 1957 from the industry's global leader, a firm from the USA. The large project did not go well and the relationship between Finnish Corporation and the machinery manufacturer ended acrimoniously amidst product volume production and quality issues (see, Alajoutsijärvi *et al.*, 2000).

Following the disastrous collapse of this relationship, the Finnish paper producer initiated a strategic partnership with a small Finnish paper machine manufacturer, which gradually took over responsibility for supplying all new machines, major rebuilds and maintenance services. Since the manufacturer's track record as a paper machine producer was very short, the buyer invested considerable effort into developing the seller's capabilities, and by the 1970s, the once-small Finnish paper machine manufacturer had become world-renowned for delivering new best practices for paper mills. Today, it is the leading producer of papermaking machinery in the world.

Case analysis: The relationship between the Finnish paper producer and the small papermaking machine manufacturer is a great success story in Finnish industrial history and incisively illustrates an interactive relationship. Following its collaboration with Finnish Corporation, the papermaking machine manufacturer went on to establish a worldwide reputation for designing and implementing projects and maintenance services for paper production. The firm credits its success to its flexible service provision, strong customer orientation, and openness to learning from more experienced customers in its early years. The buyer, in turn, is one the largest paper producers in the world. The relationship between the two organizations is characterized by high performance levels in paper production, a close and open atmosphere in the business relationship, and career success for those individuals who participated in the firms' joint projects. Both parties were equally dependent on the core capabilities of the other and locked into the relationship. As a consequence, cooperation continued between projects, including technology development and, on some occasions, even marketing and management activities. The interaction became institutionalized, meaning that the partnership was self-evident and the company boundaries blurred. The data revealed

that several executives and middle managers from each firm had worked for both organizations and the managers and engineers of both companies even used the internal phonebooks of the other. Relationship coordination was complex as cooperation influenced numerous units and individuals of both companies, turning the partnership into a rather collective experience. Furthermore, many of the coordination activities occurred spontaneously at the operational level and were only approved afterwards by managers. This type of ad hoc coordination results from the strong commitment and trust between the companies and enables rapid adjustments and contextual consideration.

Discussion

In the empirical research, we contrasted each of the four conceptual post-project relationships with an empirical equivalent. In the following, we will extend our analysis by associating each relationship with certain antecedents and processes. As a result, four buyer-seller relationship development paths emerge (see Table 2).

The first path denotes the *sleeping relationship*. In this case, the buyer is most concerned with the performance the supplier has recorded in its previous projects. A few individual employees of the buyer will make key decisions without the broader approval of other company staff. Coordination tasks are simple as the supplier takes on most of the responsibility during project delivery, and afterwards in the post-project stage there is no need for further coordination. Adaptations are made mostly by the supplier, which must adjust its own technology to suit the demands of the customer. After the project is completed, business exchange ceases, and the relationship becomes dependent on the personal relationships and social bonds between individuals from the two companies. In this relationship the buyer dominates. It expects the seller to deliver the project without any post-project ties or service elements. The seller must maintain the relationship on a sufficient level to be well positioned to tender for any other project arising after delivery of the first. Before the advent of project-related services, most buyer-seller relationships evolved into sleeping ones (Hadjikhani, 1996). Today, these situations are rare, as most investment commodities now require a minimum level of maintenance service that is typically offered by the original project supplier (Blomquist and Wilson, 2007; Jalkala et al., 2010; Salonen, 2011). Even in the context of our first case concerning the engineered wood solutions, services had become a common part of the industry ecosystem even though they were not then part of the particular supplier's offering.

The second path embodies the *passive relationship*. In such a relationship, the project has turned into a maintenance service exchange, typically organized by the seller's after-sales unit. Because of the shared project history, other units and individuals will maintain social bonds and have occasional information exchanges. This results in an interaction orientation that is a combination of the past project and the continuing service exchange, and is best described as coepetitive (Bengtsson and Kock, 2000), that is, a mixture of cooperation and competition. Coordination tasks relate to the maintenance activities, organized by the seller's after-sales unit, but occasionally other units may be called in to solve problems arising from the original project. Adaptations remain low because the relationship covers only the buyer's supporting business processes. In the case study, the

chemical solutions supplier was used as an example of this relationship but software projects could be used as well. In those projects, the seller takes care of the buyer's software systems and offers updates, upgrades, and help desk services. Another quite fitting example would be elevator and escalator maintenance services.

Table 2. The four different relationship development paths in service-intensive projects.

In the third development path describing an *active relationship*, the interaction is cooperative. The parties are bound by a full service contract, and because the development services require mutual relationship-specific investments, they are equally dependent on each other. Before signing the contract, the buyer may well have established that the supplier is trustworthy by monitoring its performance in minor projects. The service concerns the customer's core business processes, but only parts of its value chain. Simultaneous maintenance and development activities stabilize a relationship, but coordination becomes complex. Typically, the seller's after-sales unit organizes the maintenance services (in the field needs, spare parts, training and care services), but the development services (evaluation/consulting, design/R&D and field/prototype testing) rely on the cooperation of several units, depending on the buyer's requirements (e.g., Artto *et al.*, 2008; Skaates *et al.*, 2002). Additionally, an awareness of the project history and the learning accumulated throughout its lifespan may prove central to future activities. Project and sales managers involved in the previous project stages tend to be, however, contracted to other buyers already, which complicate their attendance in the post-project stage. Their presence can be nevertheless extremely valuable, as building trust in the relationship is central given the critical role of the investment commodity in the buyer's business processes. We described this relationship through the medium of the wind turbine parts manufacturer case. Other contexts include the crane industry, where tailored and industry-specific projects (e.g., overhead, nuclear, port or shipyard cranes) are supplemented by maintenance (e.g., inspections, repair, spare parts, upgrades, rebuilds, and training) and development services (TCO analysis, runway surveys and rope analysis) to create a long-term business relationship.

What differentiates the active from the *interactive relationship* is primarily the scale of the cooperation. In the latter, cooperation extends to the buyer's complete value chain including not only operations, but also other core business processes such as marketing. Furthermore, the exchange goes beyond the product-related services to encompass consultation and other, more generic, business services. This relationship is hardest to initiate, as it requires the buyer to be convinced of the supplier's capabilities relating to all the components: performance, psychosocial, collective, and individual. If the supplier is able to convince the customer after several years of cooperation to allow it to take charge of the services encompassing the customer's core business processes and value chain, the relationship becomes institutionalized and the company boundaries blurred. Moreover, companies are locked-in to each other due to complex resource ties, activity links and social bonds, which make termination of the relationship difficult. Besides the paper producer case, other examples include content management system (CMS) projects for large corporations and public authorities. In such cases, the development of new electronic services (replacing face to face

customer encounters) takes years (or even decades) after the initial project delivery and continues almost in perpetuity, a situation often referred to as *scope creep* in software projects (Grabher and Ibert, 2011). Since the Internet is an integral part of almost any company's core business and is connected to the entire value chain (logistics, operations, marketing and sales and services) these projects are closely scrutinized by management.

It is also worth mentioning that in a time before services were understood to be crucial for competitive advantage and before industry ecosystems had developed to their current extent, traditional heavy industries tended to favor certain post-project relationships. For instance, in the paper industry it was generally accepted practice until the 1980s that projects included only so-called hard parts. At that time, a firm like our case company would offer services for free to obtain the contract to commission a new machine or major rebuild from its previous project buyers. Of course, generally speaking, customers would have to pay for those services in the price of major projects. Thus, the sleeping relationship was the formal post-project relationship, even though in reality it resembled the passive relationship. The preferred post-project relationship type changed towards the active form in the late 1980s.

Conclusions

The current study explores different post-project relationship paths in service-intensive projects, which thus far has seldom been the focus of investigations in previous studies in the field. We used abductive reasoning (Dubois and Gadde, 2002; Peirce, 1958) building on previous interaction studies (Brennan and Turnbull, 1999; Hadjikhani and LaPlaca, 2013; Håkansson, 1982; Möller and Wilson; 1995; Ring and Van de Ven, 1994) and our empirical research to construct a conceptual research framework (Figure 1). Subsequently, we illustrated the framework in practice by applying it to a comparative case study in four different project contexts: engineered wood solutions, chemical solutions, wind turbines, and paper production. Our aim was to determine: 1) what kinds of post-project relationships there are in service-intensive projects; and 2) what are the antecedents and processes leading to their development. In this section, we provide detailed answers to these questions.

The findings of the case study support the view of the research framework in that there are at least four potential post-project relationship paths. We label these relationships as sleeping, passive, active and interactive as they can be expected to cover a majority of the different post-project relationships in service-intensive projects. Furthermore, the findings indicate that these relationships embody certain antecedent and process characteristics, enabling us to compile four distinct development paths (Table 2).

Being able to categorize relationships and indicate development paths is important for several reasons. First, they allow us to comprehend the complex nature of post-project interaction; whether the interplay between a project buyer and seller develops beyond a sleeping relationship is contingent upon the overlap between the participants' interaction orientation, relationship experience and

post-project expectations. Second, development paths reveal the dynamism in the interaction – the service exchange enables relationship development (Ojansivu et al., 2013) and therefore an active relationship might turn into an interactive or a passive relationship over time. Third, anchoring post-project relationships using well-defined interaction concepts makes proper theoretical analysis possible; without such a leap, project marketing would remain stuck in quicksand. Finally, this research contributes to the perception of discontinuity. Evidently, economic exchange is not the central problem in service-intensive projects (Jalkala et al., 2010; Ojansivu et al., 2013) as most of the post-project relationships have an inbuilt minimum service level (e.g., Alderman et al., 2005; Salonen, 2011). However, attaining the heights of more advanced service exchange, encompassing both the customer's core business processes and important parts of the value chain, takes time and demands mutual trust and commitment. Understanding the dynamism in the development paths, that is, why some post-project relationships deepen into interactive ones while others degenerate into passive or sleeping ones, should be the central tenet of research in the future. Relationship discontinuity is a more comprehensive phenomenon than the lack of economic exchange assumed in previous literature (e.g., Cova and Salle, 2007; Skaates et al., 2002). It is conceptualized here as interaction irregularity epitomized in the interaction processes and orientation that is influential for relationship development.

The findings are important for theory development, as the focus of project marketing now extends from overcoming periods of discontinuity with sleeping relationships to the management of other kinds of post-project relationships as well. These relationships, and the service exchange they incorporate, have distinct economic value regardless of there being a sequential project. The research framework developed in this study can be used as a preliminary outline for future project marketing studies focusing on specific post-project relationships. The cases were chosen on theoretical grounds (Glaser and Strauss, 1968, p. 49; Stake, 1995, p. 4) in order to highlight the research framework in practice. Hence, the reliability of the findings requires more empirical study. Our aim was, however, to choose the most illustrative project contexts and explain the four conceptual relationships in detail.

For managers, the findings provide practical guidance to deal with different post-project relationships. They will help managers to *initiate*, *maintain*, and *develop* post-project relationships by linking each illustrative relationship with its antecedents and processes. Thus, managers are more aware of differences between sleeping, passive, active, and interactive relationships and able to avoid mismatches between their antecedents, processes, and outcomes. An example of such a mismatch could be a seller aiming for an active relationship without comprehending the buyer's core business processes and earning the buyer's trust first; or perhaps using power in a coercive manner and thereby jeopardizing the buyer's commitment to the relationship. Furthermore, each illustrative relationship can be used as an umbrella category to map a company's various post-project relationships in its account portfolio. Having the relationships categorized enables managers to concentrate the company's resources effectively, and to analyze the risks and rewards associated with the composition of the portfolio:

- Having only sleeping relationships in the portfolio implies low costs and returns, but more notably, difficulties in predicting demand.
- Passive relationships generate stable revenues with low costs, but their cooperative orientation makes their outcomes harder to predict, as the buyers are tempted to switch service providers to cut costs (TCO).
- Active relationships offer opportunities to generate additional revenues and enhance the relationship through development activities (PLC), but this may cause the seller to jeopardize its own technology progress at the expense of the buyer.
- Interactive relationships yield business opportunities going beyond the individual projects, but at the same time their reciprocal nature consumes resources, and demands considerable management attention.

The development paths can also be applied across different relationships. Companies might convince their customers to upgrade from maintenance to development services and therefore initiate an active relationship with certain benefits. Similarly, relationships may have to be downgraded if they consume too much resource. It can be beneficial for companies to agree that a certain relationship be turned into a *sleeping* one while new strategic directions are considered. Moreover, these development *paths* tend to be coupled with historical industry developments, as explained in the paper machine supplier case.

Business relationships are strongly embedded in their specific environments, and therefore generalizations are challenging. The current research provides insights into buyer-seller relationships occurring in service-intensive projects and thus the findings should be generalized only with caution since more research is needed in this emerging project context. Forthcoming research could include themes such as how buyer-seller relationships evolve from one illustrative relationship to another in longitudinal settings, or what types of contextual considerations apply when analyzing the relationships across different service-intensive project contexts, both of which were beyond the scope of the current research.

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Tables

Table 1. Interview data

| Firm | Case A | Case B | Case C | Case D |
|----------------------------------|--|--|---|---|
| Selection criteria. | Illustrates the first relationship path: a sleeping post-project relationship. | Illustrates the second relationship path: a passive post-project relationship. | Illustrates the third relationship path: an active post-project relationship. | Illustrates the fourth relationship path: an interactive post-project relationship. |
| Sources of data. | Personal interviews, internal company documents. | Personal interviews, internal company documents. | Personal interviews, internal company documents. | Personal interviews, internal company documents. |
| Number of personal interviews. | Seller: 2 key informants. | Customer: 4 key informants. Seller: 4 key Informants. | Customer: 3 key informants. Seller: 7 key Informants. | Customer: 10 key informants. Seller: 10 key Informants. |
| Positions of the key informants. | Seller: CEO and sales manager. | Customer: Environment Mgr. Purchasing Mgr. Technology Mgr. Production Mgr. Seller: 2 Sales Mgr. 2 Sales & app. Mgr. | Customer: Purchasing Mgr. Head of purchasing Design engineer. Seller: 4 Tech. account Mgr. 3 Key account Mgr. | Executives and middle managers from both companies. |
| Duration of interviews. | 1–2 hours each | 1–2 hours each | 1–2 hours each | 1–2 hours each |

Table 2. Four potential relationship development paths in the service-intensive projects.

| Development path | Path 1. Sleeping | Path 2. Passive | Path 3. Active | Path 4. Interactive |
|----------------------------------|-----------------------------|----------------------------|---|--|
| Interaction orientation | Buyer dominance | 'Coopetitive' | Cooperative | Cooperative |
| Relationship experience | Performance/ individual/ | Performance/ individual | Performance/ psychosocial/ individual | Performance/ psychosocial/ individual/ collective |
| Post-project expectations | Warranty | Minimum TCO | Maximal PLC | Reciprocal relationship |
| Exchange | Discontinuous | Continuous | Stable | Institutionalized |
| Coordination | Simple | Moderate | Complex | Complex and ad hoc |
| Adaptation | One-sided RSI | Low RSI | Mutual RSI | Complex lock-in |



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Author/s:

Ojansivu, IT; Alajoutsijärvi, K; Salo, J

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