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NETWORK DEPENDENCIES AND PROJECT TERMINATION:

Why some Relationships Survive the End of a Project

By

Anna Bengtson Virpi Havila Susanne Åberg[1]

Uppsala University
Department of Business Studies

1. Introduction

Over the years business relationships have been studied thoroughly from several points of view, but as Dwyer et al. (1987, p. 20) express it "little is known about disengagement". Most studies within the field of business-to-business studies have concentrated on the development and expansion "phases" (Dwyer et al., 1987) or "stages" (Ford, 1980), and often show that business relationships are long-lasting (see e.g. Ford *et al.*, 1998; Håkansson, 1982; Håkansson & Snehota, 1995). However, some studies can be found where the focus is especially on the ending of business relationships. For example, Alajoutsijärvi, Möller & Tähtinen (forthcoming), Tähtinen (1999) and Grönhaug, Henjesand & Koveland (2000) study the process of dissolution, and thus concentrate on the question of how business relationships dissolve or fade. Havila (1996) and Havila & Wilkinson (forthcoming), in turn, study the relationship aftermath, i.e. what happens when trading has stopped in a business relationship. What these studies show is that even though trading has stopped, different types of bonds may still exist between the former business parties which, in turn, means that the process of dissolution has not yet come to an end.

An interesting field in which to study relationship aftermath is business relationships that are created within an organization arrangement designed to end after a certain time, i.e. that have a clear end-date. Construction projects which involve a contractor, different sub-contractors

[1] Contact person and address:
Susanne Åberg, Uppsala University, Department of Business Studies, Box 513, SE-751 20 UPPSALA, Sweden

and suppliers are an example of this organizational form, since projects are “characterized by a life-cycle including project start-up, growth, decline, and termination” (Meredith & Mantel, 1989, p. 4f). Much has been written on what characterizes projects, or temporary organizations, especially as a contrast to permanent organizational arrangements (see e.g. Lundin & Söderholm 1995, Ekstedt & Wirdenius 1995). Less emphasis has, however, been given to the problem of linking the temporary organization to a more permanent structure. One such “bridge” between the dynamic project setting and a more stable and long term context could be the business relationships that are created within the projects, i.e. those relationships that survive the project termination.

The purpose of this paper is to elaborate further on the business-relationship aftermath stage in situations when relationships, that were designed to end at a specific time, continue to exist. In order to investigate this, persons representing firms involved in a specific building project were interviewed using a semi-standardized questionnaire. Thereafter a second building project, located in another region, but involving the same building contractor, was investigated. Our findings show that some relationships between parties involved survived the termination of the first project and were “re-activated” for the second project. In this paper we examine to what extent network dependencies have explanatory power for understanding this survival.

We will start by exploring the project concept, as well as the concepts of business relationships and networks, and thereafter move on to a short description of the empirical base. After a discussion of possible reasons why some relationships survive the project end-date and others do not, we will end with some concluding remarks.

2. Projects: Business Relationships with End-Dates

According to traditional project literature, one of the most prominent features of projects is that they have end-dates. This also implies that the project can be clearly defined and separated from "the whole". Lundin (1995) claims that a project is "the successful result of separating the realization of a task from its environment", while Løwendahl (1995) defines a project as "a specific finite task to be accomplished". This main feature, that projects are something specific

that can be separated out, entails other special characteristics. Some of these are: a clear purpose, well-defined end-results, a life-cycle (including project start-up, growth, decline and termination), interdependencies between projects and between project and parent organization, and last, but not least, some elements that are unique (so that the project cannot be reduced to routines within the parent company) (Meredith & Mantel, 1989, p. 4-5). Or, as Lundin & Söderholm (1995) put it, time, task, team and transition are important concepts. A temporary organization is limited in time, in the number of (clearly defined) tasks it encompasses, in the number of people taking part, and it is often a means to achieving some sort of change in the organization (Lundin & Söderholm, 1995, pp. 438-439). In an analogous manner Packendorff (1995) defines a project as a unique, once-in-a-lifetime task, with a predetermined date of delivery, that is being subject to one or several performance goals (such as resource usage and quality), and consists of a number of complex and/or interdependent activities (p. 320).

Packendorff (1995) also makes a clear distinction between the project as a tool and as a temporary organization. We would, however, like to take the discussion one step further. It is not enough to separate between projects and temporary organizations if we want to understand what makes relationships survive the end of a project. According to Packendorff, if a project is seen as a temporary organization, there will be an interactivity between expectations, action and learning (p. 328), but all of this takes place *within the predefined project time*. Few authors discuss what takes place once the task is fulfilled, i.e. when the project is finished. An exception would be Hellgren & Stjernberg (1995) who discuss project networks as means to design and implement major investments. In their conceptual framework, a project network is defined as "(1) a set of relations, where no single actor may act as legitimate authority for the network as a whole, (2) where the network is open in the sense that there are no definite criteria by which the boundary of the network may be identified and controlled, and (3) where the network is temporally limited, dynamically changing and (partially) reconstructed from one project to the next."(p. 379) The authors parenthesis, "partially", is what will be examined further in this paper: Projects are designed to end, and thus also business relationships that are created within the frame of the project.

3. Networks of Business Relationships

If projects can be seen as business relationships with end-dates, networks of business relationships are instead developed over a long period of time and long-lasting in nature (see e.g. Håkansson 1982, Axelsson & Easton 1992, Håkansson & Snehota 1995, Ford *et al*. 1998). According to this perspective, firms are engaged in activities that are carried out across firm boundaries, activating resources not only within one firm, but at different places within the network. Rather than being regarded as isolated entities, firms are considered to be interdependent and bound together in a network (Håkansson & Snehota, 1989). The interdependency, or the fact that one firm needs other firms in order to carry out its activities, also entails uncertainty – your success does not solely depend on you, but also on the firms you are interacting with. Long-lasting relationships, where you know your counterparts, is one way to come to terms with these interdependencies. The text book description of the construction industry, however, is often rather distant from the network perspective, with its description showing a business climate with a strong reliance on tender and bids for each short term project, resulting in a interaction-pattern between firms within each project. If this traditional view of the industry is true, there should not be any interdependencies or network to speak of. Whether this holds true or not will be discussed later on.

As mentioned before, what we are going to examine in this paper is how business relationships that exist within a certain project, in this case within the construction industry, are used (and thus re-activated) or not used within another project. Although we believe that this is a topic that has not been studied extensively before, there are other studies of the construction industry that are not focusing on projects exclusively. One example of this is Dubois & Gadde (2000), that describe the characteristics of the construction industry through a cycle of events that stem from and favor a system of loosely coupled units (cf. Weick 1976, Glassman 1973, Aldrich 1980). A difference between the construction industry and many other industries is, according to Dubois & Gadde, that the construction industry still relies on standardized parts rather than standardized activities. The absence of customized products calls for considerable adjustments at the individual construction site in order to adapt to the requirements of the specific building, which in its turn emphasizes the need for a decentralized structure, focusing on individual projects. The primary driver of efficiency in the structure is “a strong adherence to competitive tendering” which, to complete the cycle, lead to less product adaptations.

As mentioned earlier, projects are designed to end, and, therefore, so are the relationships between firms taking part in the project. Despite this, we have found that there are business relationships that survive the project termination. The question which arises is: "What characterizes the business relationships that continue after a project termination?" The network view on business relationships may provide us with some clues, but to attempt to answer this question we will now move on to a description of our empirical material.

4. The Empirical Base

4.1 House Building Projects in General

The design and construction of a building is usually seen as a sequential process, even though the different phases are more or less overlapping. The building process could be divided in four phases: (1) decision to build, (2) product determination, (3) product manufacture, and (4) product use. And in the case of building houses, the process can be seen to take totally more than 50 years; from the decision until the house is torn down (Nordstrand, 1993).

After the decision to build has been made, the next step is to decide on the appearance and functionality of the house, i.e. what it should look like and how it should be constructed. This is described through explanatory drawings made by the part that initiated the building process with the help of consultants, e.g. architects, consultants in electric, and heating, water and sanitation, or the work can be given to an external building constructor through a tendering procedure. The role of the building constructor in the production phase can therefore differ depending on how much of the planning work the part that ordered the building has already taken care of. In those cases when the building constructor gets detailed explanatory drawings, its role is to take care of the actual construction of the house. In other cases the building constructor may get involved already during the planning phase, and they are thus more free to make own decisions regarding, for example, what materials to use in the different parts of the building. In both situations the building constructor uses different types of sub-contractors and sub-suppliers.

Today different types of building constructors, together with external contractors, that take care of the electric, heating, water and sanitation, and painting work, do the actual manufacturing. Other important actors within the building industry are suppliers of building material, which

makes about half of the building costs (*ibid*, p. 134). It is the building contractor who chooses which sub-contractor and material supplier to use through a tendering procedure. This means, according to the text books, that it is the price sub-contractors and material suppliers offer that decides who is going to be involved in the actual project. Figure 1 illustrates the different categories of actors who may be involved in a building process.

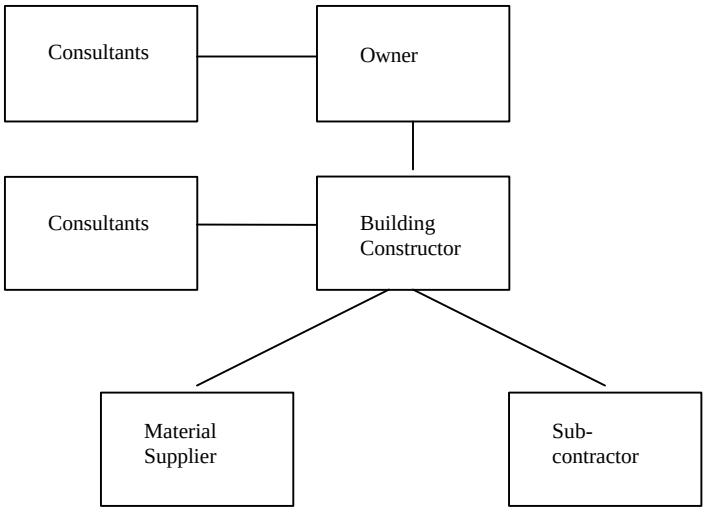

Figure 1. Different Actors Involved in a Building Process

As can be concluded from the text and the figure above, there can be a lot of actors, at different levels, involved in a construction project. The sub-contractors and material suppliers are often chosen through tendering procedures, which means that the building constructor asks for offers from several companies for each part of the building. In Project Stockholm for instance, one of the projects discussed in the next section, some 10-15 companies were asked to offer for each part. This means that several hundreds of companies were asked to make an offer. Normally, not all companies make offers. One reason may be that they are busy with other projects and do not have free production capacity. Another reason can be that the building is located too far away and the transport costs therefore would become too high.

4.2 The Two Projects

The discussion in this paper is based on a study of the relationship-connections between two Swedish construction projects, here named Project Stockholm, built in 1996, and Project Uppsala, built in 1997. The two projects are related through the fact that it is one company, a

large Swedish retailer firm, that in both cases ordered a commercial building from the same building constructor. For both projects, similar lists of detailed requirements, concerning both function and appearance, were used. The commercial buildings are thus similar to each other, but not identical, e.g. they are of different size, and the foundations were done in different ways.

The focus here is on the building constructor's relations to its material suppliers and sub-contractors. In Project Stockholm the building constructor engaged 16 material suppliers and 27 sub-contractors for the project, all in all 43 different companies. Table 1 lists the sub-contractors/material suppliers that were involved in Project Stockholm. The table also shows which of the sub-contractors and material suppliers where the same in the two projects.

Table 1. Involved Material Suppliers and Sub-contractors in Project Stockholm and in Project Uppsala

	Project Stockholm	**of which the following are the same in Project Uppsala**
Sub-contractors	Sub-contractor number: 1,2,3,4,5,6,7,8,11,14, 16,19,20,22,24,25,26 27,28,29,33,34,35, 36,39,40,43	Sub-contractor number: 8,14,36,40,43
Material Suppliers	Material supplier number: 9,10,12,13,15,17,18,21, 23,30,31,32,37,38,41,42,	Material supplier number: 9,15,18,37,41

In Project Stockholm data has been collected in two different ways: (1) through open-ended personal interviews with involved people from the building constructor side, and (2) through structured personal interviews with the involved suppliers and sub-contractors. The eight open-ended interviews, that were conducted first, involved persons that were active during the different phases of the construction project. An interview was also conducted with the architect. The purpose of this procedure was to gain an overall picture of the construction project and identify the involved suppliers and sub-contractors. In the structured personal interviews, which were conducted with the 30 most important suppliers and sub-contractors, we used a partly standardized questionnaire covering both the content of the interaction process during the project and earlier experiences. The questionnaire included questions regarding important characteristics of the supplier/sub-contractor and questions concerning connected relationships.

In Project Uppsala the building constructor engaged 38 material suppliers/sub-contractors in total. Here a personal open-ended interview was conducted with two persons directly involved in the construction project: the production manager and a person dealing with purchasing matters. The purpose of the interviews was to compare the two construction projects regarding the involved suppliers and sub-contractors.

The two commercial buildings are located about 100 kilometres from each other, and thus we could have expected that several of the involved suppliers and sub-contractors would have been the same in both the projects – especially since the buildings were constructed by the same building constructor for the same customer and for a similar purpose (a commercial building). However, even though the building constructor is the same company, the buildings are located in different regions. Since the building constructor's organisation is divided in different regions that work rather independently from each other, different parts of the building constructor company were involved in the two projects, and thus none of the individuals who were involved in Project Stockholm became involved in Project Uppsala. When the planning work started for Project Uppsala, however, the production manager in Uppsala visited the building site in Stockholm and met with the manager in charge of the Stockholm project. As expressed by the production manager: *"in this way we got thoughts transferred".*

4.3 The Survivors

In the end ten companies (five sub-contractors and five material suppliers) of those who were involved in Project Stockholm became involved in Project Uppsala (see Table 1). All of these companies also had done business with the building constructor already before Project Stockholm. What can be the reason for these ten business relationships surviving the termination of Project Stockholm? As can be seen from Table 2, each of the ten companies has competitors that the building constructor could have chosen instead. Is the only reason that they were able to offer the lowest prices, or are there some specific characteristics in the product, or in the relationship between the parties, that made the parties re-activate the business relationship?

Table 2. The Five Sub-contractors

Sub-contractor/ Material Supplier	*Type of Product*	*Product Characteristics*	*Number of Possible Alternative Suppliers*	*Type of Relationship to the Building Constructor*	*Owner's Requirements regarding Choice of Product*
8	Frame of steel including assemblage	Unique product in the meaning that each framework is build according to the customer requirements.	11-14	Has done business before. No contract.	-
14	Loading platforms and doors including assemblage	Unique product in the meaning that each loading platform is build according to the customer requirements.	6-7	About 5 deals per year since some years back. No contract.	Owner wanted to have the same product.
36	Grating (for doors) including assemblage	Unique product in the meaning that each grating is build according to the customer requirements.	10	Has done business before. No contract.	-
40	Folding wall including assemblage	Unique product in the meaning that each folding wall is build according to the customer requirements.	13	About 30-40 deals per year. No contract.	-
43	Floor tiles including floor-laying	Unique product in the meaning that each floor is laid according to the customer requirements. Often the floor-laying must be done fast which means that special knowledge how to do it is needed.	6	Has done business before. No contract.	Owner wanted to have the same product.

As Table 2 shows, the five products supplied by the sub-contractors are unique in the meaning that these types of products are always adapted according to the customers' requirements. For example, the building framework is unique for each building. Even though the components included in these products are standard, the end product is unique. In these five cases one reason for the re-activation could be the adaptations that are made during the assembling phase. For example, in the case of floor-laying, the persons who lay the floor need to be able to work

quickly, because no other work with the building can be done during the floor-laying. Therefore it is important that the floor is laid as fast as possible. The persons who laid the floor here are working only with this, and thus travel from one building site to another.

In four of the cases (numbers: 9, 18, 37, 41) some type of contracts existed between the material supplier and the building constructor (see Table 3). This is probably one reason why these companies became involved in Project Uppsala as well. All these products are standard products and no adaptations were needed.

Table 3. The Five Material Suppliers

Sub-contractor/ Material Supplier	Type of Product	Product Characteristics	Number of Possible Alternative Suppliers	Type of Relationship to the Building Constructor	Owner's Requirements regarding Choice of Product
9	Prefabricated joists	Standard product. No product adaptations were needed.	4-5	Has done business before. Some type of contract exists.	-
15	Fire-ventilation	Standard product. No product adaptations were needed.	4-5	About 30 deals per year since 1988. No contract.	Owner wanted to have the same product.
18	Steel doors	Standard product. No product adaptations were needed.	4	Does business continuously. Long-term contract since 1970	-
37	Carpets	Standard product. No product adaptations were needed.	*	Contract exists.	-
41	Kitchenette	Standard product. No product adaptations were needed	*	Contract exists.	-

* No interviews were conducted with these two companies. The reason is that they sell standard products that are of minor importance for the building as a whole. In addition, the total cost of these products in relation to the total cost of the building is of very little importance.

When we look at the owner's requirements regarding which product should be included in the building, we find that there were three products (numbers: 14, 43, 15) that the owner wanted

to have. For example, the owner wanted to give a similar look to the interior of the building and thus wanted to have the same type of floor tiles in both buildings.

Next we will discuss possible reasons for why business relationships with clear end-dates continue to exist.

5. Discussion and Concluding Remarks

In the two building projects we have studied here, five sub-contractors and five material suppliers were engaged by the building constructor in both of the projects. In both cases, the building constructor used a tendering procedure, and one way to explain the re-activation of the business relationships would be to say that the companies were able to offer a lower price than their competitors. In each case there are several possible alternative suppliers. But is the lowest price the only reason for re-activation?

First, if we look at the products supplied by the five material suppliers, we see that they are standard products, and that no adaptations or specific investments were made vis-à-vis the building constructor during the projects. Thus, these relationships cannot be characterised in the way that long-lasting business relationships often are described: mutual adaptations, co-operation, social interaction, and institutionalisation (Håkansson & Snehota, 1995). The reason for the re-activation therefore cannot be that a close relationship has developed between the parties over time. Despite this, the parties do business with each other more or less continually (see Table 3). A similar pattern can be found among the five sub-contractors. One difference is that the sub-contractors deliver a unique product in the meaning that their product is made according to the building constructor's requirements. However, the product is not unique in the sense that no one else can produce and/or supply it. As we can see from Table 2 and 3, there are several possible suppliers.

What can then be the reason that the parties continue to do business with each other from one project to another? In each of the ten cases there seems to be some type of specificity that is built in the product over time that seems to be one reason for the re-activation of the business relationships. Different types of product specificity, as the opposite of standardized products (or parts), can be found among the business relationships. Firstly, in five cases the specificity

seems to be built in the combination of the standard parts included in the product offered for the building constructor. For example, the building framework is unique, even though the parts included in it are standard parts. Secondly, the specificity can be due to a contract between the parties. This means that even though the product as such is standard, it becomes a specific product vis-à-vis other products, as it is always included. The steel doors are an example of a standard product that in this building constructor's buildings has become a specific product. This means that other companies' products must be adapted to this product. Thirdly, product specificity can be found due to the influence of the owner. In three of the cases it was the owner of the commercial building who wanted to have a specific product. Thus, these products became specific vis-à-vis other products even though they were standard products.

What we can see from the projects we have studied is that some business relationships with a clear end-date can survive the end of a project. The reasons seem to be found in different type of network dependencies due to product specificity that have emerged over time between the companies. We have found three types of network dependencies due to product specificity. First, dependency between suppliers of parts to the sub-contractor, the sub-contractor and the building constructor's other suppliers included in the project (see figure 2A). Second, dependency between the sub-contractors and material suppliers that are included in the project (see figure 2B). And third, dependency between the owner and the sub-contractors and suppliers that are included in the project (see figure 2C).

Figure 2

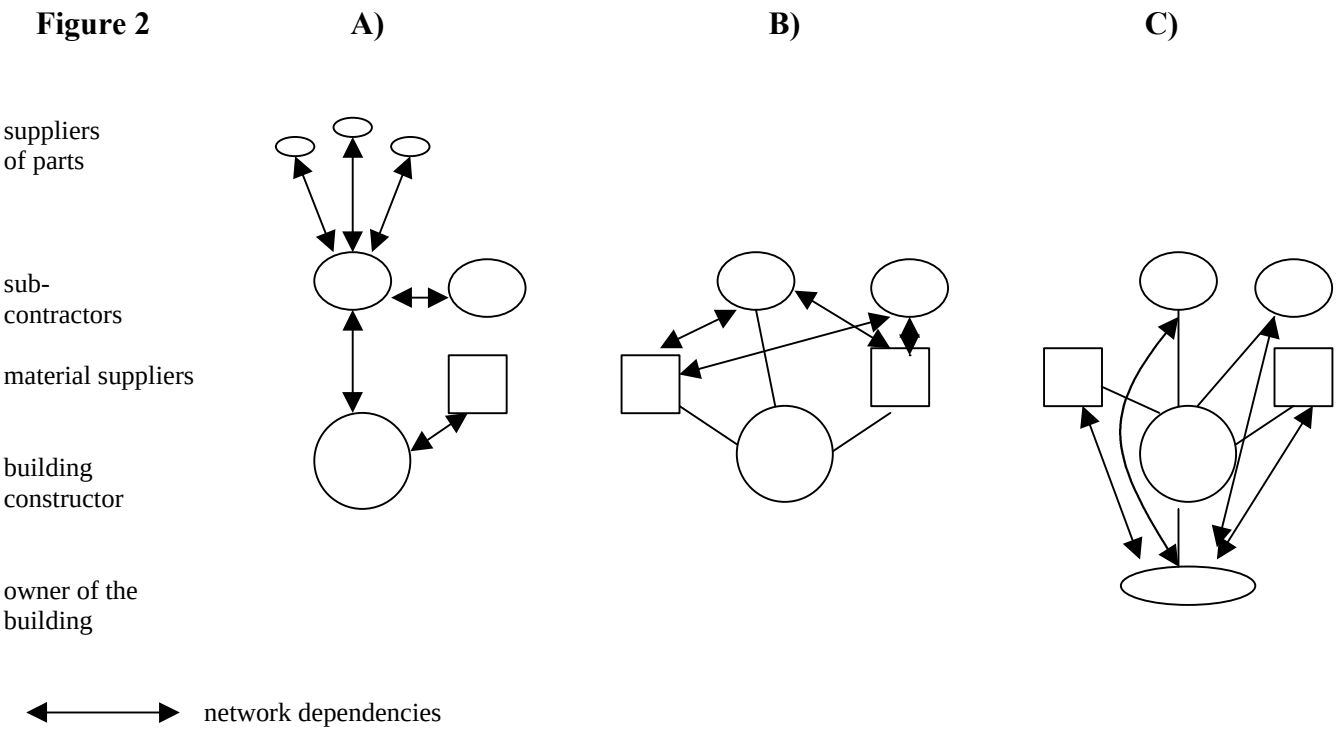

Figure 2 A-C. Three types of network dependencies

Product specificity does thus seem to be a variable separating the business relationships used only in the Project Stockholm and the business relationships used in both projects. One would expect the relationships characterised by network dependencies to be activated also in coming projects. This would then imply that they are long-term business relationship although they have an end-date in each building project. A question then is, what happens to the "industry cycle" (Dubois & Gadde, 2000), presented above, when the standard parts are not present. If the product is specific, there is no, or at least less, need for adjustments of that specific product on site, and thereby also possibilities for a more long term focus than the individual project. The industry characteristic of short-term market-transaction seem to co-exist with more long-term relationships and network dependencies.

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