This is an electronic reprint of the original article.
This reprint may differ from the original in pagination and typographic detail.

Vuori, Elisa; Mutka, Sanna; Aaltonen, Pertti; Artto, Karlos

That is not how we brought you up: how is the strategy of a project formed?

Published in:
International Journal of Managing Projects in Business

Published: 01/01/2013

Document Version
Peer reviewed version

Please cite the original version:
Vuori, E., Mutka, S., Aaltonen, P., & Artto, K. (2013). That is not how we brought you up: how is the strategy of a project formed? *International Journal of Managing Projects in Business*, 6(1), 88.

This material is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of the repository collections is not permitted, except that material may be duplicated by you for your research use or educational purposes in electronic or print form. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone who is not an authorised user.

That is not how we brought you up- how is the strategy of a project formed?

Author 1 Name: ElisaVuori

Department: School of Science

University/Institution: Aalto University, Finland

Town/City: Helsinki

State (US only):

Country: Finland

Author 2 Name: Sanna Mutka

Department: School of Science

University/Institution: Aalto University, Finland

Town/City: Helsinki

State (US only):

Country: Finland

Author 3 Name: Pertti Aaltonen

Department: School of Science

University/Institution: Aalto University, Finland

Town/City: Helsinki

State (US only):

Country: Finland

Author 4 Name: Karlos Artto

Department: School of Science

University/Institution: Aalto University, Finland

Town/City: Helsinki

State (US only):

Country: Finland

Abstract

Purpose: The requirements of various participants of a project may be conflicting with the strategy of the project's parent organization and, consequently, the project may form its individual strategy independently to better align with the factors in its environment. We describe the formation of the strategy of a project as a response to the project's environment. We provide insight into a project's strategy formation, where the project does not merely reflect the strategy of the parent but where the parent is only one influential actor (of many) in the project's environment.

Design/methodology/approach:

To increase our understanding of the relationship between the project's environment, the strategy of the project based firm and the strategy formation of a project, we analyze a project of a metallurgy firm in the empirical case study.

We use project literature and corporate venturing literature. We look for the dimensions of project strategy and the factors in the project's environment and we study how the factors in the environment shape the project's strategy.

Findings: Our analysis suggests that factors in the internal and external environments affect the strategy formation with varying strength. The strategy of the case project was formed in a micro-level iterative processes, in interaction between dimensions of strategy of the project and factors in environment. The empirical case study suggests that a project initiated with factors having strong external influence has to face contradiction between the selected strategy and many related influential factors in the parent organization of the project.

Originality/value: This paper contributes to our understanding of how the strategy of an individual project is formed through micro-level processes that are related to external and internal factors that affect the strategy formation.

Keywords: Project strategy, project management, venture, project environment, customer delivery project

Introduction

A child may make decisions that are not in line with the wishes of the parents. The analogy exists with projects: projects are not always obedient to their parent organizations – or to the parents' strategies. It is not all about how the child was brought up: she acquires values and habits also from the environment outside home boundaries; not just for the sake of being a rebel, but because she has to survive and succeed also in the external environment. The environment of a project consists of the *internal environment* inside the parent organization but still outside the project organization, and the *external environment* outside both the project and the parent organization, in the market (Figure 1). A firm's strategy is formed in response to the environment and organizational resources to gain a strategic fit (Lewin *et al.*, 1999; Kraatz and Zajac, 2001). Relying on this analogy we also consider the strategy of a project to form in order to balance between the requirements in its environment and the resources of the project organization.

Figure 1. Project environment.

The purpose of this paper is to provide insight into a project's strategy formation, where the project does not merely reflect the strategy of the parent. This kind of situation takes place when the strategy of the parent organization is not completely fit to the market. We present a case study on a customer delivery project the strategy of which did not conform to the strategy of the parent organization, and explain the formation of the strategy of the project as a way to survive in both internal and external environments.

The literature on project strategy initiated with a linear perception that a project organization will implement the strategic plan of its parent and thus the goals of a project are set by the parent before the project starts (Morris and Jamieson, 2005; Cleland, 2004; Shenhar *et al.*, 2005). Project strategy is portrayed as a transitional concept between the strategy of the parent and the project plan (Shenhar, 2004), and the emergent elements have been shunned as they have been assumed to be negligible (Jamieson and Morris, 2004). This linear process view has been increasingly challenged in project strategy and project management literature (Artto *et al.*, 2008a; Morris, 2009; Loch and

Kavadias, 2011; Lampel, 2011). The situation where a project organization does not proceed with a predetermined plan has been depicted in studies on R&D projects (Klein and Meckling, 1958; Wheelwright and Clark, 1992), vanguard projects (Frederiksen and Davies, 2008) and investment projects (Vuori *et al.*, 2012). The emergent strategic elements in these kinds of projects have been viewed through corporate venturing literature, which addresses the creation of new businesses in established companies (Burgelman, 1983). It is also obvious that the goals of such projects extend beyond time, scope and cost and the projects can change the business and renew the strategy of the parent (Artto *et al.*, 2010; Loch, 2000). The questions remaining are if the linear strategy process perspective should be challenged also for projects that do not primarily aim at development of new resources or capabilities, or strategic change in that sense, and how the project strategy formation process proceeds if it is not linear. To bridge this gap we explain the formation of emergent elements of the strategy of a project in a novel context: our empirical study addresses the case of a customer delivery project of a system supplier firm. Studying the individual strategy of a project is worthwhile in a situation where the project diverges from the other projects of the parent and some of the capabilities required to perform the project are not found inside the parent (Thornhill and Amit, 2001). The projects may diverge from previous customer delivery projects and existing capabilities of the parent organization because of the novel environment they face.

In earlier literature, it has been stated that the environment affects the strategy of a project (Artto *et al.*, 2008b), but the relationship has not been studied in detail. In this paper the goal is to study the strategy formation of an individual project as a response to its environment on the micro level. We do not study the mere translation of business strategy to a project level, but maintain that with a certain level of autonomy a project may form a strategy more independently. We pose the following research question:

How is the strategy of a project formed when it does not outright obey the strategy of the parent organization?

The concept of the strategy of a project needs to be analyzed to define what micro-level decisions and processes are parts of the strategy formation, and thus should be included into the study. The strategy of a project may have several dimensions, like goals of the project or the methods the project uses. We define the project strategy in terms of its dimensions to operationalize the concept

for the empirical study. The project strategy is formed as a response to the environment of the project, and we study both internal and external environments of the project. To operationalize the concept of environment we look for factors in external and internal environment that may affect to strategy according to project strategy literature and venturing literature. In the empirical study we analyze how the strategy of a project forms as a response to the project's environment through the factors.

The parent organization is in a central role as it forms the whole internal environment. The importance of internal environment and external environment depends on how many influential stakeholders the project has and how much autonomy the project has (Artto *et al.*, 2008b). The external environment may be in a strong role for example because there is a customer that is in a strong position. A strong external environment may cause that the strategy of a project is not totally aligned with the strategy of the parent organization or with other factors in the internal environment, and that may cause tension between the project organization and the parent organization. In a situation where the parent organization operates in a complex and unpredictable environment it is difficult for the parent to form a strategy that would have constantly a good fit with the environment. A lack of fit there may cause that projects arise that cannot obey the strategy of the parent organization if they intend to survive in the external environment. However, the project has to survive also in the internal environment to gain support and resources, and the project organization forms a strategy to cope with the tensions between parties in both environments.

Strategy and environment in the context of a project

Strategy of a project

Projects can be used to improve the performance of the existing business or to move into new lines of business, so they are either used to exploit established resources and capabilities, or to explore new ways to develop competitiveness by venturing into new markets or new technologies (Frederiksen and Davies, 2008). Base projects are undertaken to meet current customer needs, whereas base-moving projects are novel initiatives to search, discover and test new market opportunities or to test new technologies (Frederiksen and Davies, 2008). A special case on base-moving projects are vanguard projects, which are the first projects initiated in a company to move away from the company's core business into a new market or technology base (Brady and Davies,

2004). When the goal of a project is to explore beyond existing resources or to enter new markets, it is less 'related' to the existing competences and thus more difficult to manage (Parhankangas and Arenius, 2003). That leads to goal-setting, which is both business-oriented and on a broad level happens in the front-end of the project (Wheelwright and Clark, 1992).

If the project is similar to previous projects and the parent has all the capabilities to carry it out, the project is very likely to be successful by implementing the deliberate strategy (Mintzberg 1978) of the parent, and its goals can be set beforehand on a detailed level (Sorrentino and Williams, 1995; Thornhill and Amit, 2001; Parhankangas and Arenius, 2003). Autonomy increases the potential of success in projects that contain new elements, for example novel technology and markets, and have high uncertainty and complexity (Gemünden *et al.*, 2005; Hobday, 2000; Loch and Kavadias, 2011). A project can form an independent strategy if it has sufficient autonomy from its parent (Clark and Wheelwright, 1992; Martinsuo and Lehtonen, 2009; Lampel and Jha, 2004).

Project strategy formation is described as taking place at the front-end of the project (Jamieson and Morris, 2004), as a tool to translate the parent's strategy into implementation (Morris and Jamieson, 2005). Project strategy is a combination of diverse management plans and project plans setting project objectives, defining scope, setting functional strategies, managing design process and managing resources and context (Jamieson and Morris, 2004). Project strategy acts as the missing link between business strategy and project plans (Shenhar, 2004).

Although Wheelwright and Clark (1992) do not explicitly employ the concept of project strategy, they define mechanisms to cope with the managerial challenges that heavyweight teams and autonomous teams face: The project charter defines broad performance objectives, the contract book the plan how to achieve the goals, leadership refers to a project manager's authority over a project, team responsibilities the roles in project organization, the executive sponsor guides and controls the project, retaining the desired level of autonomy in the project.

Most business-oriented definitions of project strategy emphasize competitive advantage and success. Shenhar (2004, p. 573) defines project strategy as follows: "the project perspective, position, and guidelines on what to do and how to do it, to achieve the highest competitive advantage and the best value from the project outcome". Thus project strategy should include the

following elements: Business perspective, objective, product definition, competitive advantage, success and failure criteria, project definition and strategic focus (Shenhar, 2004). Artto et al. (2008a, p. 8) define project strategy as the “direction in a project that contributes to the success of the project in its environment”. In this definition, direction describes the explicit elements of the project strategy, such as goals, plans, guidelines, methods, and governance systems.

Based on the literature, we define project strategy to contain dimensions that form *goals* of the project and the *ways* in which the project will be executed. The goals of the project concern both

- *Business objective*, which contain a business perspective, competitive advantage and strategic focus
- *Product*, which is the outcome of the project. Components concerning the end product of the project include product definition and product characteristics.

Ways of executing a project contain governance of the project and the methods of managing it:

- *Governance structures* of a project contain the success/failure criteria, reward/penalty schemes, measurement systems and leadership and sponsoring of a project. Governance structures ground to the goals of the project.
- *Methods* that are used here are common concepts for strategic components such as guidelines, tools, processes and plans.

Environment of a project and strategy formation

The environment of a project has been conceptualized through stakeholders of the project (Aaltonen *et al.*, 2010; Jepsen and Eskerod, 2009), and the influence of multiple stakeholders on the strategy of a project is recognized (Artto *et al.*, 2008b). In such a complex stakeholder environment, the strategies and requirements of various stakeholders, for example the parent organization and external customers, may be conflicting (Morris, 2009), and consequently the project organization cannot directly adopt any of those goals, but it has to establish a strategy by itself to survive in its environment.

A project faces two operational environments: external and internal (Miller and Camp, 1985). In the internal environment, a project competes against other projects or solutions, first for support and later on for resources. Turbulence, dynamism and uncertainty of the environment are important issues shaping the strategy. The strategic goals of projects can be categorized along two dimensions: where they are initiated (inside/outside firm boundaries) and how they relate to the existing resources (exploration/exploitation) (Hill and Birkinshaw, 2008). That produces four types of projects:

- 1) Internal explorer - invests in opportunities inside parent firm, and aims for *firm growth*
- 2) Internal exploiter uses existing assets quickly, aims at *spin-offs*
- 3) External explorer invests outside firm boundaries to *prepare for future strategies*
- 4) External exploiter invests outside firm boundaries to *gain increased revenue* for existing assets. (Hill and Birkinshaw, 2008)

From a project's strategy formation viewpoint, the parent organization represents an internal environment exogenous to the project, where the project competes with the parent's other projects e.g. for resources or priorities, or with the parent's conflicting strategic directions (Eskerod and Jepsen, 2005; Engwall and Jerbrandt, 2003). A project does not emerge in a vacuum and it is not an isolated entity, but the success of the project is strongly dependent on the capabilities of the parent (Engwall, 2003). This notion also involves an aspect of dynamism that is introduced by the continuous change of the project's boundaries over its lifecycle while certain stakeholders from outside will participate in the project, and exit the project when their tasks are completed (Hellgren and Stjernberg, 1995).

The challenges of managing a project change over time. When the project is in the creation stage, the main challenges for a project manager is securing internal support for a project, convincing key stakeholders to undertake the project and learning from early experiences (George and MacMillan, 1985). In the latter 'momentum' stage, the focus of the strategy of a project moves to coping with the external environment (George and MacMillan, 1985). The strategic goals of a project partly arise from the resources they employ and their relatedness to organizational resources and the significance of stakeholders (e.g. other participating companies) (George and MacMillan, 1985).

In the internal environment the factors that affect project success are the role of top management, parent's support, organizational culture of the parent, organizational structure and processes, use of rewards, controls and planning, a parent's strategy profile, timing and entrepreneurship (Narayanan *et al.*, 2009; Miller and Camp 1985; Tsai *et al.*, 2001; Abetti, 1997). Internal success is measured by how attractive a project is considered to be within the parent organization (McGrath, 1985). 'Related' projects, which are close to the existing business of the parent gain the support of top management more easily, and they face less resistance in the parent organization. They are easier for the parent to manage, coordinate, and set goals, and top management perceives their value better. Projects, which are further away from the parent's core business, face problems with gaining human and financial resources and they are more difficult to manage. (Parhankangas and Arenius, 2003) The most important benefit of having a related strategy in a project are the synergies that are gained from sharing resources, and thus a project can capitalize on the competencies and resources of the company (Sorrentino and Williams, 1995; Thornhill and Amit, 2001). In case the project's strategy is not related to the parent's strategy, the project is more likely to be dependent on the entrepreneurial behavior of the firm identified in venturing literature. The entrepreneurial process is at its simplest seizing opportunities, which may lead to e.g. the creation of new projects. The actions of individual people may contribute to the growth and strategic renewal of the whole organization (Baron and Tang, 2011).

In the external environment a project copes with market forces (Miller and Camp, 1985) such as technology-related factors and demand conditions (Narayanan *et al.*, 2009). External marketplace success is measured as market success (McGrath, 1995). Before entry into an external environment, it can be assessed with two variables: the attractiveness of the environment and market opportunity, and fierceness of competition within (Tsai *et al.*, 2001; Abetti, 1997). Before a project starts, it competes for the customer with other potential deliverers. After the initiation, the market situation still affects the bargaining power of the parties.

Method

The empirical data is collected as a part of a single embedded-unit case study (Yin, 2003). In the embedded unit seven customer delivery projects have been investigated. For this paper we chose one of these projects that we considered having the greatest learning potential (Stake, 2000). We

consider the chosen project to be a deviant case (Flyvbjerg, 2006): The case represents and anomaly to the existing theory, and thus allows creating new understanding on the formation of the strategy of a project.

We make extensive use of the term 'Firm' to refer to the business unit, where this term does not confuse the actual content of our analysis concerning the organizational context/hierarchy, and 'Alpha' concerning the case project. Data consists of interviews with key actors: project managers, technology managers and salespeople in the customer delivery project, and division-level staff including the president of the division and product-line managers. There were four interviews directly concerning the execution of project Alpha, five interviews with top management and 12 interviews about other projects in the same business unit. Interviews were carried out by two to four interviewers from the research group. They were tape recorded and transcribed. Interviews were semi-structured involving questions focused on the strategy and policy elements in the division and the projects, and evolution. In addition to these open-ended questions, interviewers asked more detailed questions when needed.

Our study utilizes abductive logic to elaborate the existing theory to explain the anomaly represented by the case study (Van de Ven, 2007). We built a theoretical framework and see if it can explain the anomaly, and complement it if necessary. To characterize the strategy of project Alpha we studied how the components of the strategy of the project were formed to fit to external and internal environment factor by factor. The dimensions of project strategy derived from literature analysis are business objective, product, governance structures and methods. In the internal and external environment we looked for factors that were presented in project and venture literature as the ones that effect project strategy or project success. The factors found in the literature are top management, the strategy of the parent, the organizational culture of the parent, parent support, resources and entrepreneurship in the internal environment, and customers, competitors, technology and legislation in external environment. We use strategy components and environmental factors as a basis for the empirical analysis where we study how the environmental factors affect strategy components, and complement the theoretical framework if needed.

Case description

Project Alpha was a medium-sized (>10 million euro) maintenance project for an existing electric furnace at the customer's plant that produced metal, with which Firm did not have a lot of experience. The project scope included basic and detailed engineering and equipment related to repairing the furnace. A small automation package was developed to monitor the temperature of the furnace. In addition, disassembly of the existing furnace, installations of the new parts, and ramp-up services were included. Thus, the project was a turnkey-project with the entire scope offered in the same contract.

The furnace was originally delivered by Firm's competitor. When the furnace broke down a couple of years before project Alpha took place, the competitor had repaired it. The furnace operated only a couple more years before breaking down again. The customer was in a hurry to get the broken furnace fixed because it forced the whole factory to shut down. Since the customer was dissatisfied with the competitor's work, they contacted other suppliers to provide a proposal for the project.

Even though Firm did not have a lot of references for the metal the plant produced, the customer asked also Firm to give a proposal for the project. Firm was not familiar with the customer before; however, the customer plant had been bought by a large mining company with whom the other divisions of Firm's parent company had good relations as they had successfully delivered projects to the customer's other plants in the past. This is why the customer was confident in Firm's ability to fix the broken furnace, even though they had not had any direct contact before. However, since furnace technology is not complex, there were many potential competitors including local maintenance companies and other equipment vendors with whom the customer was also negotiating.

During the negotiations Firm started off by offering only basic engineering and the equipment needed for fixing the furnace. This was a standard procedure for Firm as the company saw itself first and foremost as a technology supplier. However, little by little the customer increased the project scope as they did not have the capability to design and repair the furnace in-house. First the technology and equipment offering was increased. However, soon Firm also promised to disassemble the old furnace as well as do the installation and ramp-up work on site. The sales manager and the head of the unit agreed that as almost everything was already included in the project scope and it was easier to deliver the project as a turnkey delivery. This was unusual for

Firm since turnkey deliveries were seen as unprofitable business due to the risks related to the installation work. However, project Alpha was a special case and due to the standard furnace technology, there was a lot of competition who would have delivered the project as turnkey.. As the head of the unit was very keen on making project a reference delivery for both the metal and the customer, he went against the general attitude in Firm by agreeing to the broader scope of a turnkey delivery.

The sales team was in a hurry to create the proposal for the project, and they did not have a lot of time to prepare it. The world economy was booming which led to a growing demand for Firm's services in general. This was why the people involved in the sales phase were overloaded with work. The sales team contacted the known domestic suppliers to estimate the cost of the equipment. However, as Firm was not used to do turnkey deliveries, there were no established relations with contractors who could do the installations. They quickly asked a known domestic equipment supplier as well as a contractor from the plant's local country for price estimates, and based on these estimates they calculated the cost for the project. The sales team described the sales phase as chaotic, as they were negotiating and drafting many other proposals on the same time. In fact, since project Alpha as a turnkey delivery was different from the other projects Firm had previously delivered, the sales team did not think that it would realize and therefore did not put much effort on it. The lack of experience with the metal, the non-existing customer relationship as well as the large number competitors reinforced this attitude.

After the proposal was given to the customer, it took almost three weeks before Firm heard from them again. Firm already thought they had lost the project. Indeed, the customer had come very close to accepting another supplier and had even told this to its parent company. This was probably due to pricing, as Firm can be seen as a high-end supplier. However, at the last minute they changed their mind. Later on, the customer said the reason for this was that Firm's salespeople had been the only ones that had made straight decisions during the sales meetings. The other suppliers always had to go back, ask for permission and estimate the impact on the project. Another reason was probably the long guarantee period that Firm was willing to provide. The customer asked for 10 years, but the head of the unit was able to reduce it to less than 2 years, which is still much longer than is usually provided in the industry.

The project finally started as a small surprise to Firm. As there were no available project managers at the time, the sales manager had to take on the responsibilities of a project manager for the first time in his career. First, the equipment was designed and purchased. Since the head of the unit wanted to create a successful project reference with project Alpha, he made sure that in this phase all of the needed resources were available for the design of the furnace even though Firm had many other on-going projects. Some of the design had been done during the sales phase in order to be able to start discussions with suppliers and to evaluate the cost of the renovation. Even though the technology was not complex, the design was not straightforward for the project team since Firm had not delivered a similar project before. Therefore, there were no internal projects to benchmark and most of the engineering had to be done from scratch.

The procurement team started negotiations with suppliers. The procurement team was able to negotiate good discounts for the equipment as they used a known domestic equipment supplier. For the one part of the equipment, there was only one supplier that could be used since they were the only ones who could deliver within the project timeline. However, negotiations with contractors soon revealed that the project was underpriced, as the cost of the installation work was much higher than expected. This was the first drawback in the project which led to decreased profitability. Local contractors were hired for the disassembly, installation and ramp-up of the oven. Interestingly, during the project Firm's parent company acquired a maintenance company specialized in the disassembly of electric furnaces. Had this happened earlier, Firm would have been able to utilize the acquired company's capabilities in project Alpha.

Since the customer was in a hurry to get the furnace working, the deliveries were done in an unusual way. Instead of waiting for all the equipment to be delivered by suppliers and installing them afterwards, the installation work was done little by little as soon as the equipment was received on site. The lack of experience in doing installation work became more evident in later phases of the project. For example, Firm was not familiar with the strict local legislation for on-site workers. In fact, there were such stringent security requirements that sometimes the work had to be stopped altogether. This made the contractors' work very inefficient. In order to make things easier, the customer hired a security consultant to make sure that local laws were complied with and that there was no more hindrance to the work. However, during the project the world economy

rapidly declined and so did the demand for the customer's end product. Therefore, the delays in the project were no longer an issue as even the customer felt that the delay was beneficial.

The quality of the deliveries from the known equipment supplier also turned out to be subpar. When the equipment was delivered, installed and tested during the ramp-up phase, it turned out that the supplied equipment could not take the pressure and broke down. The supplier was supposed to fix the equipment, but the repaired equipment broke again. The reason for this was mainly that the supplier was used different materials than what the furnace was made of. Eventually, they were able to fix the equipment with the right level of quality. The incident did however make the customer overly cautious. This was also why ramp-up support was extended at the end of the project. Since there had been problems during the project, the customer started to focus on details and was not comfortable of releasing Firm's representative before they were absolutely sure that the furnace was working perfectly.

The project drawbacks made it evident that the project would not hit its financial targets. However, the head of the unit and the project team saw it as very important to make the project a success, if not for the money but for the reference value it would generate. Therefore, project Alpha was never neglected but rather emphasized for the potential value it could generate for the whole company through new projects in the future.

After the project delivery, the project was seen as successful even though it did not fully meet its financial targets. Some technologies that were developed during the project are now standardized and can be used again in similar projects. At the moment Firm is delivering a very similar same project for another customer. In addition, the attitude towards turnkey deliveries has changed. In fact, one interviewee even said that the project influenced the ability of the company to take risks. Before, Firm was keen on delivering what they knew best in the way that they had always done. However, Firm now has belief that they can take on projects for metals that they have not delivered for before. More importantly, the project developed the capabilities to take on full responsibility for installation work, and thus increased the scope of projects in the future.

Results

Table 1 presents the factors in the internal environment and how those factors affect the strategy of Alpha. Table 2 displays the external environment factors and their effect on strategy of Alpha. The factors found in the theoretical section were altered to reflect the case: The support of a parent organization was not seen as an independent factor in the case, but rather as overlapping with top management, the parent's strategy and the organizational culture of the parent. Thus the parent's support was left out of the analysis. In the analysis entrepreneurship appeared as a part of organizational culture of the parent. Organizational structure and processes were not apparent in the empirical analysis, whereas controls and planning appeared to be reflections of the parent's strategy. The resources factor, both as resource allocation and development, was present in the case through other projects in Firm, and hence they were added as a factor and divided into past, ongoing and future projects. In the external environment we added legislation, suppliers and economic situation as factors which affected project's strategy formation.

In Table 1 and Table 2 the columns represent the dimensions of strategy of the project, and the rows stand for the factors in the environment of the project.

Table 1. *The factors in the internal environment (parent organization) that affect the strategy of the project.*

Dimension / factor	Business objective	Product	Methods	Governance structures
Top management	Head of a unit wanted reference no matter what.	Supported a broader scope due to the business objective	The head of the unit ensured that the best resources were used in the project.	Success was not solely a financial measure; after many drawbacks there was less emphasis on financial criteria.
Strategy of the parent	A strategy to produce solutions for more metals and to sell more services.	Offerings are basic engineering equipment, and that was the starting point for offer - however in later phases turnkey nature contradicted with the strategy; the strategy supported the development of new solutions.		The financial criteria is the most important, however developing capabilities and references are important too; the parent's strategy enabled changing success criteria as getting the reference enforced strategy.
Organizational culture of the parent	Organizational culture allowed sales people to make independent decisions on the scope of deal.		A risk-avoiding culture meant not enough emphasis in the sales phase (sales team did not believe in the realization of project).	Firm was used to selling profitable equipment and licenses and therefore high profits were important; project was seen as failed financially.
Resources	Aimed at creating experience and capabilities for employee's	Skilled employees were able to do a lot of development work during the project.	Scarce resources in the sales phase, no experience with turnkey projects led to problems with pricing and on-site work.	The project was intended to develop new capabilities.
Other on-going projects		No on-going projects that could have supported engineering.	Resources were overloaded with other projects.	Many other on-going profitable projects set the standard for success.
Other past projects	No previous experience from similar projects.	There was no internal reference project.	No previous experience of installations led to hasty decisions.	
Other future projects	Project's importance was in creating capabilities for future projects.			New capability development for future projects became the main success criteria.

Table 2. *The factors in the external environment (market) that affect the strategy of the project.*

Dimension / factor	Business objective	Product	Methods	Governance structures
Customer	The customer needed a working furnace to keep the plant operating, and was in a hurry to get the furnace working.	Customer had no capabilities for taking on installations so Firm was forced to take responsibility for them.	Customer was in a hurry, and that affected project management; the customer helped project by hiring a security consultant to ensure compliance to legislation.	
Competitors		Large amount of competitors forced Firm to take on turnkey responsibility.		
Technology		The technology was straightforward and many competitors could have done it; the existing technology on site affected the design.		
Legislation			Local legislation delayed installation.	
Suppliers			Almost all technologies were ordered from the same supplier which led to an unusual way of doing installations.	
Economic situation		The timetable of project fluctuated due to the market price of the end product.	World economy was booming and Firm's employees were overloaded with work.	

Business objective: *Getting a good reference project for the customer and metal, no matter what*

This business objective emerged mainly as a response to internal environment agents. Top management and the strategy of the parent supported the move towards a broader metals portfolio, and the lack of experienced resources implied that the capabilities needed to be developed, since past projects were not able to provide guidelines for Alpha. The need to contract new projects in the future was the main driving factor in the pursuit of the project. The only external agent affecting the business objective was the customer, since Firm wanted to generate more business with the new customer.

Product: *Broadening the scope of offering from equipment delivery to turnkey*

Top management and the strategy of the parent were the most important internal agents in creating the product offering for the project. The project sponsor, who was a senior manager, supported taking on the project even though the parent's strategy was basically against turnkey projects and the organizational culture was also not favorable. The potential gains of the project, the customer and metal reference and capability development, were in line with the strategy. However, the most important factors were still external. The customer did not have the capability to execute the project and there were a lot of competitors who were able to deliver it due to its easy technology. Therefore, Firm had to broaden the scope more than it was used to do.

Methods: *Unusual methods due to hurry, lack of belief and lack of experience*

The methods were affected by a lack of resources and experience. In addition, the organizational culture did not support project Alpha, and therefore the sales phase was also conducted with hesitancy about its success. Both the on-going and past projects affected the methods: first, resources were tied up with other on-going projects, and second, there were no past projects that were working as example for Alpha. However top management ensured that Alpha had enough resources even though there were plenty of other projects competing for those resources. Externally, the economic situation was such that there was not enough emphasis on the project. In addition, the customer was in such a hurry that it created further pressure during the sales phase.

Governance structures: *Traditional financial success criteria as well as reference value*

Governance structures were influenced mainly by internal environmental agents. Even though top management saw the reference value, traditional financial criteria were still seen as the most important ones. In addition, the organizational culture was such that it sought to increase profits and lessen risk, which had been the key to Firm's success in past projects. The criteria for a timely delivered project were altered during the project execution, and that was because of the changing business objectives of the customer. This was a lucky break, as otherwise they would not have met the due dates.

Discussion

Our results suggest that the project had to form a strategy deviating from the strategy of the parent because the strategy of the parent was not responding to the market need (figure 2). The customer

was requesting for a project that was not fully supported by the strategy of the parent organization. As the project organization was willing to realize the project, it had to respond to the customer needs or otherwise the project would not have been realized. In internal environment the project could as well have been terminated, as it was not aligned with existing strategy and resources of the parent.

Figure 2. Project organization creates a strategy to gain a fit with its environment.

Our analysis suggests that the project was initiated due to the strong influence of the external environment, and the customer had a significant impact on defining the project's goals. As the project goals were partly imposed by external environment, it struggled to gain acceptance in the internal environment in the initiation phase, as it was not wholly aligned with the existing strategy and resources of the parent. However it gained top management support, and the project sponsor

and the sales manager (and later the same person being the project manager) championed the project in the internal environment. They were willing to take the risks and grasp the opportunity posed by the external environment, as the customer and metal to be refined were attractive for the future projects. This suggests that the strategy of the parent was not optimally fit, as if the project organization had obeyed that strategy it would not have met the needs of an otherwise attractive customer delivery project. Our observations agree with those scholars who claim that the strategy of a project is not necessarily derived from the strategy of the parent, but other strong stakeholders may have a significant influence on it and the strategy of a project is a mainly a business-oriented one (Artto *et al.*, 2008a; Morris, 2009).

Our analysis shows the effect of both internal and external environments both during the course of project preparation and implementation. The project navigated in its environment in a way typical for strategic venturing, and the venture-like nature rose from the situation where the project was initially more aligned with its external environment than internal environment and existing resources (Thornhill and Amit, 2001). The external environment, where the customer was in a strong role since it was the project initiator, affected mostly on the business objective and the product of the project, but also on the methods the project was implemented with. The governance structures were not directly affected by the external environment, as the governance structures derive from the project goals. The internal environment had a multifaceted effect on all dimensions of the strategy of the project.

The role of the sales team was crucial for defining the product. They adapted to customer demands in spite of the factors in the internal environment that did not favor taking the project on: the organizational culture and lacking resources. The struggles project Alpha faced in the initiation phase support the view that first the project competes in the internal environment to gain acceptance and support, and the further the project is from existing resources, the more difficult it is to manage (George and MacMillan, 1985; Parhankangas and Arenius, 2003). The offering the sales people created was affected by both the mistaken expectations of the sales people, as well as the autonomy given to them. Sales people did not believe in the realization of the project as they did not have a full picture on the issues of the external environment that affected the situation, and they did not have too much time to consider those issues.

The defining role that the sales unit had in the initiation phase of the project suggests that the current owner of the project creates the strategy. Thus the sales unit is the creator of strategy of the project in the initiation phase of a customer delivery project, and the other units are parts of the internal environment. As the project moves into the implementation phase, it is passed to a new unit, the creator of strategy changes and sales unit becomes a part of the internal environment. However, the strategy created in the initiation phase is not easily changed in the later phases even if the owner changes, since there are artifacts; contracts and other constructs like an existing furnace, which are difficult to alter. In case Alpha several actors retained their goals throughout the life cycle of the project, and thus it is not possible to decide based on this case whether the mildness of change in the strategy of the project was due to stable goals or the difficulty to change the strategy of the project.

Conclusion

This study aims to understand how a strategy of a project forms when it does not directly obey the strategy of the parent organization. We found that the formation of the strategy of a project is a response to the project's environment. This is because strategies and requirements of various stakeholders participating in a project may be conflicting and, consequently, a project may form an individual strategy to bear up with the factors in its environment. In fact, our study suggests that a project initiated with factors having strong external influence has to face contradiction between the strategy of the parent organization, and other factors in the internal environment. The project organization needs to create a strategy that creates sufficient fit with the external environment to be marketable for the customer and win the other potential offers, and with the internal environment to gain managerial support and resources, to survive. That represents a process of corporate venturing.

We addressed the concept of project strategy not limiting ourselves to the project strategy literature, but also exploiting the corporate venturing literature since it discusses strategic business entities that carry similarities to projects more than firms do. In corporate venturing literature we sought factors in the environment that potentially affect the strategy of a project, as a venture also operates in both internal and external environment.

We made some modification to the theoretical framework environmental factors during analysis phase to capture all the phenomena observed in project Alpha. We found interactions in the project's strategy formation that were related to the factors in both the internal and external environment. The factors recognized in the internal and external environments are heterogeneous, as they contain full-fledged companies (customer, competitors), organizational entities (other projects), institutions (legislation) and intangibles (organizational culture, the strategy of the parent). Later studies could address these factors in a more classified way.

Our approach allows understanding of dynamic strategy formation in a project during its lifetime from selling to execution. Each project operates in a unique environment since the internal and external environments are both dynamic and the state of the factors change in a short timeframe: Different resources are available, ongoing projects change, the customer is different and the economic situation changes. This means that even projects that are similar by type and are inside the same parent company may have different project strategies. Many scholars hold that a project's strategy is formatted inward out, from existing capabilities and structure to market opportunity. Our results suggest that sometimes a project's strategy is formatted outward in, from seizing an external opportunity to developing internal capabilities.

Managers might benefit from observing that a project may form a strategy not aligned with that of the parent organization to achieve a better fit with the external marketplace when the parent organization's strategy does not fit the external marketplace that well. Thus in complex and changing market allowing entrepreneurial organization culture and internal venturing may create projects that respond to the emerging needs of market.

References

Aaltonen, K., Kujala, J., Lehtonen, P. and Ruuska, Inkeri. (2010), "A stakeholder network perspective on unexpected events and their management in international projects", *International Journal of Managing Projects in Business*, Vol. 3 No. 4, pp. 564-588.

- Abetti, P. A. (1997), "The birth and growth of Toshiba's laptop and notebook computers: A case study in Japanese corporate venturing", *Journal of Business Venturing*, Vol. 12 No. 6, pp. 507-529.
- Artto, K., Kujala, J., Dietrich, P. and Martinsuo, M. (2008a), "What is project strategy?", *International Journal of Project Management*, Vol. 26 No. 1, pp. 4-12.
- Artto, K., Martinsuo, M., Dietrich, P. and Kujala, J. (2008b), "Project strategy: Strategy types and their contents in innovation projects", *International Journal of Managing Projects in Business*, Vol. 1 No. 1, pp. 49-70.
- Artto, K., Davies A., Kujala J. and Prencipe A., (2010), "The project business: analytical framework and research opportunities", In P. W. G. Morris, J. Pinto, J. Söderlund, (Eds.), *Oxford Handbook of Project Management*: 133-153. Oxford, UK: Oxford University Press.
- Baron, R. A. and Tang, J. (2011), "The role of entrepreneurs in firm-level innovation: Joint effects of positive affect, creativity, and environmental dynamism", *Journal of Business Venturing*, Vol. 26 No. 1, pp. 49-60.
- Brady, T. and Davies, A. (2004), "Building project capabilities: From exploratory to exploitative learning", *Organization Studies*, Vol. 25 No. 9, pp. 1601-1621.
- Burgelman, R. A. (1983), "A process model of internal corporate venturing in the diversified major firm", *Administrative Science Quarterly*, Vol. 28 No. 2, pp. 223-244.
- Cleland, D. I. (2004), "Strategic management: the project linkages", in Morris, P.W.G. and Pinto, J.K. (Eds), *The Wiley Guide to Managing Projects*, Wiley, Englewood Cliffs, NJ.
- Eskerod, P. and Jepsen, A. L. (2005), "Staffing renewal projects by voluntary enrolment", *International Journal of Project Management*, Vol. 23 No. 6, pp. 445-453.
- Flyvbjerg, B. (2006), "Five misunderstandings about case-study research", *Qualitative Inquiry*, Vol. 12 No. 2, pp. 219-245.

- Frederiksen, L. and Davies, A. (2008), "Vanguards and ventures: Projects as vehicles for corporate entrepreneurship", *International Journal of Project Management*, Vol. 26 No. 5, pp. 487-496.
- Gemünden, H.G., Salomo, S. and Krieger, A. (2005), "The influence of project autonomy on project success", *International Journal of Project Management*, Vol. 23 No. 5, pp. 366-373.
- George, R. and MacMillan, I. (1985), "Corporate venturing: Venture management challenges", *Journal of Business Strategy*, Vol. 6 No. 2, pp. 85-91.
- Engwall, M. (2003), "No project is an island: linking projects to history and context", *Research Policy*, Vol. 32 No. 5, pp. 789-808.
- Engwall, M. and Jerbrant, A. (2003), "The resource allocation syndrome: the prime challenge of multi-project management", *International Journal of Project Management*, Vol. 21 No. 6, pp. 403-409.
- Hellgren B. and Stjernberg T. (1995), "Design and implementation in major investments – a project network approach", *Scandinavian Journal of Management*, Vol. 11 No. 4, pp. 377-394.
- Hobday, M. (2000), "The project-based organization: An ideal form for managing complex products and systems?", *Research Policy*, Vol. 29 No. 7-8, pp. 871-893.
- Jamieson, A. and Morris, P.W.G. (2004), "Moving from corporate strategy to project strategy", in Morris, P.W.G. and Pinto, J.K. (Eds), *The Wiley Guide to Managing Projects*, Wiley, Englewood Cliffs, NJ.
- Jepsen, A. L. and Eskerod, P. (2009), "Stakeholder analysis in projects: Challenges in using current guidelines in the real world", *International Journal of Project Management*, Vol. 27 No. 4, pp. 335-343.
- Klein, B.H. and Mecling, W.H. (1958), "Application of operations research to development decisions", *Operations Research*, Vol. 6 No. 3, pp. 352-363.

- Kraatz, M.S. and Zajac, E.J. (2001), "How organizational resources affect strategic change and performance in turbulent environments: Theory and evidence", *Organization Science*, Vol. 12 No. 5, pp. 632-657.
- Lampel, J. (2011), "Institutional Dynamics of Project-Based Creative Organizations: Irving Thalberg and the Hollywood Studio System", in: Cattani, G, Ferriani, S., Frederiksen, L., Täube, T. (Eds.), *Project-Based Organizing and Strategic Management, Advances in Strategic Management*, Vol. 28, Emerald Group Publishing Limited, pp.445-466
- Lampel J. and Jha P.P. (2004), "Models of project orientation in multiproject organizations", in Morris, P.W.G. and Pinto, J.K. (Eds), *The Wiley Guide to Managing Projects*, Wiley, Englewood Cliffs, NJ.
- Lewin, A. Y., Long, C. P. and Carroll, T. N. (1999), "The coevolution of new organizational forms", *Organization Science*, Vol. 10 No. 5, pp. 535-550.
- Loch, C. (2000), "Tailoring Product Development to Strategy: Case of a European Technology Manufacturer", *European Journal of Management*, Vol. 18 No. 3, pp. 246 – 258.
- Loch, C. H. and Kavadias, S. (2011), "Implementing Strategy through Projects", in P. W. G. Morris, J. Pinto, J. Söderlund, (Eds.), *Oxford Handbook of Project Management*: 224-251. Oxford, UK: Oxford University Press.
- Martinsuo, M. and Lehtonen, P. (2009), "Project autonomy in complex service development networks", *International Journal of Managing Projects in Business*, Vol. 2 No. 2, pp. 261 - 281
- Miller, A. and Camp, B. (1985), "Exploring determinants of success in corporate ventures", *Journal of Business Venturing*, Vol. 1 No. 1, pp. 87-105.
- Mintzberg, H. (1978), "Patterns in strategy formation", *Management Science*, Vol. 24 No. 9, pp. 934-948.

- Morris, P.W.G. (2009), "Implementing business strategy via project management", in: Williams, T.M., Samset, K., Sunnevåg, K.J. (Eds.), *Making essential choices with scant information: Front-end decision-making in major projects*. Palgrave Macmillan, Basingstoke.
- Morris, P. W. G. and Jamieson, A. (2005), "Moving from corporate strategy to project strategy", *Project Management Journal*, Vol. 36 No. 4, pp. 5-18.
- Narayanan, V. K., Yang, Y. and Zahra, S. A. (2009), "Corporate venturing and value creation: A review and a proposed framework", *Research Policy*, Vol. 38 No. 1, pp. 58-76.
- Parhankangas, A. and Arenius, P. (2003), "From corporate venture to an independent company: A base for taxonomy for corporate spin-off firms", *Research Policy*, Vol. 32 No. 3, pp. 463-481.
- Shenhar, A. (2004), "Strategic Project Leadership: Toward a strategic approach to project management", *R&D Management*, Vol. 34 No. 5, pp. 569-578.
- Shenhar, A.J., Dvir, D., Milosevic, D., Mulenburg, J., Patanakul, P., Reilly, R., Ryan, M., Sage, A., Sauser, B., Srivannaboon, S., Stefanovic, J. and Thamhain, H. (2005), "Toward a NASA-Specific Project Management Framework", *Engineering Management Journal*, Vol. 17 No. 4, pp. 8-16.
- Sorrentino, M. and Williams, M.L. (1995), "Relatedness and corporate venturing: Does it really matter?", *Journal of Business Venturing*, Vol. 10 No. 1, pp. 59-73.
- Stake, R. (2000) "Case studies". In Denzin, N. K. & Lincoln, Y. S. (Eds), *Handbook of qualitative research* (2nd ed.). Sage, Thousand Oaks, CA.
- Tsai, W.M-H., MacMillan, I. C. and Low, M. B. (1991), "Effects of strategy and environment on corporate venture success in industrial markets", *Journal of Business Venturing*, Vol. 6 No. 1, pp. 9-28.
- Thornhill, S. and Amit, R. (2001), "A dynamic perspective of internal fit in corporate venturing", *Journal of Business Venturing*, Vol. 16 No. 1, pp. 25-50.

- Wheelwright, S. and Clark, K.B. (1992), *Revolutionizing product development: Quantum leaps in speed, efficiency, and quality*. Free Press, New York, NY.
- Van de Ven, A.H. (2007), *Engaged scholarship: A guide for organizational and social research*. Oxford University Press, New York, NY.
- Vuori, E., Artto, K. and Sallinen, L. (2012), “Investment project as an internal corporate venture”, *International Journal of Project Management*, Vol. 30 No. 4, pp. xx-xx.
- Yin, R. K. (2003), *Case study research design and methods*. 2nd ed., Sage, Thousand Oaks, CA.