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**PROJECT DELIVERIES AS STRATEGIC VENTURES: A DYNAMIC ANALYSIS
USING THE BUSINESS MODEL CONSTRUCT**

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Abstract

Utilizing the business model construct, we study how a firm organizes to deliver heterogeneous project supplies to customers, when each project pursues its own strategy. THE FIELD DOES NOT ALLOW MORE!

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ABSTRACT

We study how a firm organizes to deliver heterogeneous project supplies to customers, when each project pursues its own strategy. To conceptualize the strategy on project and firm levels we utilize the business model construct to make the strategy operational. Building on the process theory of strategic venturing, we compare the elements in firm and project level business models. We observe that the firm pursues two induced strategies. Most project level strategies judged from their business model elements overlap well with either of the firm level strategies. One project pursues a unique autonomous strategy, which later is adapted at firm level.

Keywords: strategic venturing, business model, project-based firm, delivery project, project business

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INTRODUCTION

In this paper, we seek to explain how a firm which conducts its business mainly through projects is able to simultaneously deliver different types of investment goods projects and also how it copes with the situation when the contents of these highly variable deliveries change over time. Today, companies in most industries use projects as a means to organize work (Artto & Wikström, 2005; Engwall, 2003; Shenhar, 2001; Wikström, Artto, Kujala & Söderlund, 2009). Projects are traditionally regarded as temporary organizations which are established to complete a specific goal (Lundin & Söderholm, 1995; Packendorff, 1995). Accordingly, a project is seen as a subordinate to the parent firm originating from the parent's business goals (Morris & Jamieson, 2004; Shenhar et al., 2007).

The traditional view of regarding projects simply as vehicles for achieving firm level goals is increasingly challenged both empirically and theoretically. Empirically, many studies show that large projects transcend the boundaries of a single firm (Artto & Kujala, 2008; Artto, Davies, Kujala & Prencipe, 2011; Wikström et al., 2009). These projects are typically carried out by a number of distinct firms with their mutually competing and conflicting interests and strategies. The firms involved both compete and co-operate over time (Artto & Kujala, 2008; Artto et al., 2011). The analysis indicates that projects are more or less independent business enterprises (Wikström et al., 2009). Theoretically, Artto & Wikström (2005) define project business as:

“Project business is the part of business that relates directly or indirectly to projects, with the purpose of achieving objectives of a firm or several firms.”

The definition recognizes that project business is conducted at the level of an individual firm as well as at the level of many collaborating and competing firms (Artto & Wikström, 2005).

The term project-based firm (PBF) refers to a company that organizes most of its business activities in projects (Hobday, 2000; Tikkanen, Kujala & Artto, 2007; Wikström et al., 2009). The business of a project-based firm is comprised of several independent projects. In this respect, especially project suppliers differ from the diversified organizations based on business division structure (Chandler, 1962). A project-based firm, according to Hobday (2000), is suitable for coping with emerging properties in production and matching changing client needs. It is less suitable for achieving economies of scale and coordinating cross-project resources.

Recent analyses indicate that projects resemble more or less independent business enterprises (Wikström et al., 2009). Building on the notion of a project-based firm, it is conceivable that a project as an independent business enterprise might to some extent establish a strategy of its own although the traditional view of projects as subordinate vehicles of a firm does not recognize this. Indeed, Artto, Kujala, Dietrich & Martinsuo (2008) define project strategy as:

“Project strategy is a direction in a project that contributes to the success of the project in its environment”.

Based on this definition, a project can be considered as an independent business organization having an own strategy with which it can succeed in its project-specific environment. A project’s strategy depends on how the project defines its success criteria and how

the project perceives its context (Artto et al., 2008; Artto et al., 2011). A project's environment may well differ from the host firm's environment, and therefore, project success differs from the host's success (Artto et al., 2008; Artto, Lehtonen, Aaltonen, Aaltonen, Kujala, Lindeman, & Murtonen, 2009; Artto et al., 2011). Consequently, both projects and the firm could have their respective strategies.

The idea of projects having their own strategies advances many challenging empirical questions. To what degree are the business strategies of project-based firms interrelated with the business strategies of individual delivery projects? To what extent and how do these business strategies change over time? Is the business logic or strategy at project level loosely or tightly coupled with the business logic or strategy in firm level? To what extent can business strategy elements on project level vary? What is the mechanism to allow the shaping and development of new strategic orientations?

These considerations lead us to formulate our research goal seeking to answer the following research question:

RQ: How do project-based firms cope with different types of simultaneous project deliveries?

Building on the process theory of strategic venturing (Burgelman, 1983ab) we regard large scale delivery projects of investment goods as (temporary) internal strategic ventures for the firm. To conceptualize the strategy of each investment project delivery and that of the (division and the) firm we utilize the business model construct (for example, see Chesbrough & Rosenbloom, 2002) to make the business logic attached to the strategy explicitly operational. We

analyze the dynamic connections between projects and the firm by studying the setup of specific elements of the business models of different projects and the firm.

The paper is organized as follows: Section 2 illuminates the theory background, in section 3 the case study method is discussed, and results are described in section 4. In section 5, the findings are discussed and compared with those of other scholars, whereas section 6 concludes the paper.

THEORY OF STRATEGIC VENTURING

To understand how strategic renewal happens, we introduce the process model of strategic venturing (Bower, 1970, 2005; Burgelman, 1983ab) as the theoretical frame. According to the process theory of strategic venturing, investment in new business often occurs through experimentation and selection of some initiatives from a variety of possible ones (Bower 1970, 2005). Starting from Bower's (1970) investment model, Burgelman (1983ab) has constructed a two-way process model of the evolution of project or business venture development strategy (he often uses the terms project and venture to denote to the same thing). He identifies two kinds of strategic activities. One type of strategic behavior is "induced" from above by the firm's current concept of corporate strategy. Another type of strategic behavior, internal corporate venturing, emerges from "autonomous" activities from below that fall outside the current concepts of strategy. Burgelman observes that strategy formation contains both top down and bottom up processes, manifested as induced and autonomous behavior. Corporate structure, however, is built to reinforce the current strategy and induced behavior that supports this strategy. Corporate structure, set up by top management, is a collection of various administrative mechanisms. It includes the overall levels of hierarchy in organizational configuration, formalization of positions and relationships, project screening criteria, measures of performance, appointment of middle

level managers, and risk minimization over time. Current structure does not favor autonomous activities in internal new business venturing. Rather, structures try to select “out” any such initiative that falls outside current corporate strategy.

Levinthal (1997) suggests that loose coupling between different parts of the organization enables autonomous activities. The problem of internally supporting autonomous initiatives is that top managers may not always correctly perceive the opportunities in the external environment (Burgelman, 1996). The celebrated notions of “exploration” and “exploitation” (March, 1991) illustrate this. Maintaining a pragmatic balance between “induced” exploitative and “autonomous” explorative processes is a major challenge (Burgelman, 2002; March, 1994). Variation increases in the exploratory mode and decreases in the exploitative mode. There is evidence that this might often happen in cycles (Burgelman, 1983b; Burgelman & Grove, 2007). As Burgelman & Grove (2007) describe, Intel switched from exploration to exploitation and back.

The analysis of Burgelman (1983ab, 1991), top down and bottom up processes of strategic venturing inside a firm, is isomorphic with the notion of different levels of strategies in projects and the firm and their interactions. The distinction between project-level and corporate-level strategies indicates that there is both top-down and bottom-up interaction between the project and the parent. This contradicts with the traditional view where only top-down interaction is identified (Morris & Jamieson, 2004; Shenhar et al., 2007). Due to this two-way interaction, projects can be used as trial-and-error based tools to adapt to a rapidly changing technological and market environment (Lindkvist, 2008). Moreover, many internal development activities in a project-based firm are embedded in external customer delivery projects (Tikkanen et al., 2007).

THE BUSINESS MODEL CONSTRUCT

To study the dynamics of strategic change in a project-based firm in detail we utilize the business model construct. Strategy and business models are linked to each other in literature (Osterwalder, Pigneur & Tucci, 2005) and some authors even use the terms interchangeably (Magretta, 2002). However, it is much more common to see strategy and business models as distinct terms (Osterwalder et al., 2005). According to Porter (1996), “strategy is the creation of a unique and valuable position, involving a different set of activities”. Therefore, the set of activities are created to reflect the strategy that defines the way in which the firm competes. Accordingly, a business model is seen as a reflection of the firm’s strategy - the translation of strategic goals into a conceptual model that explicitly states how the business functions (Casadesus-Masanell & Ricart, 2010; Linder & Cantrell, 2001; Osterwalder et al., 2005; Shafer, Smith & Linder, 2005). Indeed, the object of strategy can be the choice of a business model through which the firm will compete in the marketplace. Therefore, the business model concept is a useful tool for analyzing strategies in a project-based firm through which the strategies can be understood.

The business model literature tends to be descriptive by nature (Morris et al., 2005) and it focuses on the definition of the concept (Demil & Lecocq, 2010). It perceives business model as an abstract overarching concept describing all real world businesses (Osterwalder et al., 2005) and identifies its purpose, scope and relationships with other concepts, such as strategy and business processes (Pateli & Giaglis, 2004). However, there is still a lack of literature regarding the nature of relationships between business model components (Hedman & Kalling, 2003), the conditions that make a particular model appropriate, ways in which models interact with

organizational variables, existence of generic model types, dynamics of model evolution and evaluating model quality (Morris et al., 2005).

This study aims to deepen the understanding on both relationships between business models and their dynamics. This is specifically interesting for project business research, as project-based firms projects might take on various business models (Kujala, Artto, Aaltonen & Turkulainen, 2010; Kujala, Kujala, Turkulainen, Aaltonen, Artto & Wikström, 2009). In several project-based industries such as power plant deliveries and shipbuilding, suppliers tailor their offerings according to the specific needs of an individual client (Hobday, 1998). Suppliers also combine the physical deliverable with various services such as maintenance and operational support (Oliva & Kallenberg, 2003). Indeed, the distinctive characteristics of project business and the trend of servitization impose pressure on the business logic of a project-based firm (Kujala et al., 2010). Earlier literature has demonstrated evidence of the heterogeneity of business models in project-based firms on both the firm and the project level (Kujala et al., 2010; Wikström et al., 2009). Therefore, the business model concept is useful in understanding, how firms add new components to their offerings (Greve, 2007), develop new products (Christensen & Bower, 1996) or balance exploration and exploitation in product deliveries (Brady & Davies, 2004).

In order to study business models in a project-based firm, business models will be compared with each other. To be able to do this we have derived our business model construct based on seven well-known review articles (Amit & Zott, 2001; Chesbrough & Rosenbloom, 2002; Hedman & Kalling, 2003; Magretta, 2002; Morris et al., 2005; Osterwalder et al., 2005; Shafer et al., 2005). The process of constructing our framework of the business model elements based on the review articles is illustrated in Table 1. According to our analysis, the

characterizations offered for the business model construct in the seven review articles span over 8 elements. The following elements were identified: (1) offering, (2) resources and capabilities, (3) internal organization and activities, (4) revenue creation logic, (5) customer, (6) value proposition, (7) value network and (8) competitive strategy. The first four elements are internal to the company and the latter four of them are external. For good validity, in constructing our framework for business model elements, we identified all the components of a business model put forth in any single review article.

INSERT TABLE 1 HERE

METHODOLOGY

The case study method was selected for the study as business models in project-based firms represent a phenomenon fulfilling the requirements set for the research approach (Yin, 2003). On one hand, the study can be characterized as a single case study, as the unit of analysis is the firm. However, also individual projects within the firm are studied. Therefore, the study is above all an embedded case study, which allows many units of analysis (Yin, 2003). The project-based firm is the main unit of analysis, but projects as subunits within the firm are analyzed too. Following the idea of Bagozzi & Phillips (1982) applied for qualitative research, we operationalize business strategy using the multiple-element construct of business model.

The firm under analysis, Cloth Ltd (for confidentiality reasons, pseudonyms are used), is a global provider of process solutions, technologies and services for the mining and metallurgical industries. Cloth Ltd operates through three independent business divisions whose business models are somewhat different from each other. This research focuses on one independent division only, hereafter called Velvet. We therefore refer to Velvet's strategy as that of the firm.

The division provides metallurgical processing technology. The division offers a fruitful environment for the study, as it organizes its business in projects of high variety.

Five case projects were selected for analysis. The selected projects represented high variety in their offering characteristics. The division's project offerings ranged from simple pre-studies and basic engineering projects to equipment deliveries and larger technology packages. Construction and installation (turnkey) projects were offered in special cases. The division offered also on-site services during the project and after sales services as well as spare parts. In maintenance projects, existing equipment was upgraded and rebuilt. One of the case projects was a basic engineering project. Two of the projects were technology packages and one an equipment delivery. The fifth project was a maintenance project. The markets of the projects were either in Continental or Industrializing countries. The projects are introduced in Table 2.

INSERT TABLE 2 HERE

In order to assess the business model in the division and in each of the projects, data was collected in interviews. Altogether 20 interviews were conducted, 15 of which were project specific and five of which on division level. The interviews were conducted in person as semi-structured interviews. Three interviews were conducted per project, except for one project, where four interviews were done. The interviews lasted for about 90-120 minutes each and they were tape-recorded.

The interviewees represented various positions in the organization. The division-specific interviewees included for example the president of the division and product-line managers, who due to their management positions had a general view of the business. The project interviewees

included project managers, technology managers and salespeople for each project. Many of the interviewed had decades of experience in the firm. This ensured a deep understanding of the business model. Interview topics focused on the business model elements in the division and the projects, their evolution and success.

The interviews were transcribed from the tape-recordings. These transcripts were analyzed by the method of content analysis for which a coding manual was constructed. The business model definition was used as a basis for the analysis. The individuals who acted as interviewers defined the codes that were categorized in the following groups: basic information, project lifecycle, project business model and its elements, division business model, environment, project interrelation, and success. In this way, the chosen phenomenon was analyzed in detail based on categorized data. The data was then finalized for presentation and summaries about the interview findings were written. Cross tabulation and other visual representation methods were used.

RESULTS

Analysis of the division's business model

Velvet supplies metallurgical processing technology. Projects and services are seen as a tool for transferring the technologies and related know-how to the customer. There are two main types of project offerings where technologies defined in the preliminary basic engineering stage: equipment deliveries and technology packages. Turnkey deliveries are preferably avoided. Equipment deliveries most often involve established technology with a long history that can be delivered in a straightforward and standardized manner. Technology packages again pursue the delivery of not only equipment but the know-how related to the entire process. The emphasis of

technology packages is on a metallurgical process or parts of a process, and they should include engineering, both proprietary and other key equipment, automation, a spare-part package and on-site services. Automation and services can incorporate the immaterial process know-how to the technology package to help the customer fine tune their process and to increase the scope of deliveries. Traditionally, especially services have been sold separately at the end of a project, but recently the aim is to include spare parts and expert services already in the main contract. This is because the aim is to sell projects with larger volumes at acceptable profit levels. Technology packages are seen as a tool to sell broader scopes while equipment deliveries do not offer broad enough volumes.

The division's key resources are its patented technologies and licensed processes, which are based on the division's experience and know-how. The process know-how is based on technologically skilled employees that are organized in three specialized product units. Salespeople and the project staff have both theoretical and practical skills helping them to cope with the customer. In order to sell process know-how and related technologies efficiently, the division has developed standardized project management capabilities ensuring efficiency.

The customers can be divided geographically into three segments: Anglo-American, Continental and Industrializing. Velvet does not want to take responsibility on-site and most customers do not have the capabilities of an engineering office or a contractor. Therefore, Velvet has to deal with the customer and most often with the engineering office and contractor hired by the customer in a project. Velvet's customers are metal producers that have a long experience of the mining and metallurgical industry. As the market is consolidated, there are only some hundreds of customers worldwide. Therefore, customer references are important - without them it

would be quite difficult to do business in the industry. In fact, references and reputation are the most important competitive advantages of Velvet. However, also the broad and unique offering provides a competitive edge over metallurgy technology suppliers. The technologies and related know-how is important when competing with engineering offices. In fact, as Velvet is a high-end producer superior technologies and processes are also valued by the customer as they provide higher yields and more efficient operations. In addition, new technologies are environmental-friendly, safe and ergonomic.

Initially, Velvet was considered to have only one business model. However, empirical evidence from the coding of interviews shows that instead of one overall business model Velvet deploys two coexisting business models: an established business model and a newer extended business model trying to fulfill the visions and strategies of the firm. These two business models are based on two distinctive logics. This becomes visible through the analysis of the contents of the business model elements. The established model of Velvet emphasizes the equipment that is delivered to the customer. Therefore, the value proposition is based on proprietary equipment and the most important resources are the patents and technological know-how. The projects have good profitability, but the delivery size is often small. One of the interviewees commented the established business model in the following way:

“Currently, we have been sticking to our strategy not to widen the scope of delivery but for very few clients”

The extended business model offers a process or part of a process. In addition to the equipment and technologies, services and automation ensure that the process know-how of the firm is realized in the delivery. The service offering also varies as in the established business model service sales is mainly constituted of spare parts that are sold after the project. In fact, for

the extended business model the process know-how is the core capability whereas the established model emphasizes equipment expertise. This also leads to the fact that the value perceived by the customer differs. The projects in the established business model cannot provide large enough volume and therefore the extended business model aims at larger volumes. With the extended business model, the division pursues growth in the future as one interviewee stated:

“[Due to] requirements for growth from the shareholders, tomorrow, we want to sell larger packages”

As a conclusion, the two business models differ mostly on four of the eight business model elements: offering, core capability, value proposition and revenue creation logic (for detailed exposition of the two business models, see Table 3).

Analysis of the business models of the five projects

The business models of the five case projects were analyzed based on the eight business model elements defined in Table 1. For detailed descriptions about these elements in the five projects, see Table 3.

Project Crimson was a small technology package for an existing plant. Internally, the project was regarded as a standard equipment delivery, but an extensive automation package added after the engineering phase turned it into a technology package. The customer was known, and even though the customer relationship was infected due to an unsuccessful delivery in the seventies, the best available technology and many customer references convinced them to buy equipment from Velvet. As the equipment itself was very standardized, Velvet was able to use its technological expertise in delivering the project. However, for automation solution there was

some lack of capabilities in the project as this had not been done before and the skills needed to be developed. The customer was from an industrializing country, in which market customers usually had a strong organization with project management skills. This was needed, as the project was a partial delivery and an engineering office was hired for installations. As a conclusion, the project can be regarded as successful: even though the size of the project was small, the profitability was good due to standardization of the technology.

Similar to Crimson, Project Magenta was a small, standardized equipment delivery. The customer was a big metals producer already known to Cloth Ltd from previous successful projects. The customer had a strong project organization that planned the big picture and subcontracted technology-related parts of it as separate projects to Cloth Ltd. Velvet competed with another technology supplier and was considered superior due to high quality and long experience resulting from many customer references. As the project was a standard delivery of equipment that had been offered for a long time, the project utilized the existing resources and capabilities: mostly know-how, experience and patented equipment. The standard project also resulted in low risks and good profits but low volume.

The Yellow project was a technology package for a new process, which differed from the usual way to process the metal in question. The customer was primarily interested in the project as the process is more environmental-friendly and safe than the alternative, traditional way of producing the metal in question. However, the process is also cheaper, more reliable and produces higher yields. The scope included basic engineering, two process licenses, equipment, a spare parts package and on-site supervisory services for installation and ramp-up. Contrary to the traditional way of doing business, engineering and the technology package was sold in the same

contract. Automation was sold separately after the basic engineering phase. After the project, the purpose is to sell after sales-services for the proprietary equipment and spare parts for automation. As the process owned by Velvet had been delivered only two times, there were no serious competitors for the project. Velvet had the needed theoretical knowledge but the practical knowledge was basically missing. Thus, a lot of development work was done during the project. Despite the lack of capabilities, the project was successful financially.

Project Green was a basic engineering project including two licenses for a process that had not been delivered many times before. In fact, project Yellow was a predecessor for project Green, as it was the first time in a long time Velvet delivered the process in question. Basic engineering was offered separately from the technology package, and at the moment, Velvet is waiting for an investment decision about the resulting technology package tender. The customer was a big company from an industrializing country for which Cloth Ltd had delivered technologies for the customer before. As the target plant was located in the middle of a city, the customer valued the novel process which is a more environmental-friendly and safe way to produce metal. As the technologies had not been delivered many times before, outside project Yellow there was not much experience and tools to build on in the project. All in all, the project was profitable due to the license fees. However, as basic engineering projects are seen as paid tenders, the project will not start generating revenues before it proceeds to the technology package.

Finally, Project Violet was a maintenance project. The customer from an industrializing country was known to Velvet but no projects had been delivered to the continental factory before. The customer did not have an own maintenance department, which led them to ask for a turnkey

delivery. The project scope included repairing a process batch and a small automation package for monitoring purposes. In addition, the disassembly, installations and ramp-up services were included. Thus, the project’s value proposition was based on the knowledge on how to fix the existing equipment. This made the project unique for the division and in addition, this was the first partial delivery for the metal in question. However, Velvet was very familiar with the technology in question, and thus could utilize its technological capabilities and skilled employees. This did not, however, help the firm to avoid the risks of turnkey business. The project was not successful financially as a lot of capabilities to offer turnkey projects were missing causing poor pricing decisions and extra costs from on-site work. It was a new situation for Velvet to take all responsibility of the on-site work which was dealt by third party subcontractors. However, shortly after the project it was announced that Cloth Ltd. was to purchase a firm specialized also in construction work. One of the interviewees commented on the issue:

”... acquisition later on [a maintenance service company, which is specialized in such demolition works] ... had we had it we would certainly have utilized it [its expertise]...”

As a summary, Table 3 describes the two firm-level and five project-level business models element by element. The grey cells indicate the business model elements on which the division-level business models differ.

INSERT TABLE 3

Analysis of the interrelations between business models on different levels

In order to study the relations between the different levels of business models, the division and the projects were compared to each other based on Table 3. The two business models of Velvet can be treated as templates that the business models of projects might follow. In this way the interrelations and differences in all the business model elements are displayed as a summary in Table 4. The color code indicates the differences in contents between the division level business models. The white cells indicate that the elements of a project's business model – projects are displayed vertically - overlaps with the division's established business model, whereas the grey cells overlap with the division's extended business model. Business model elements that are marked as black are not overlapping with either one of the two business models on division level.

INSERT TABLE 4

The division's established and extended business model differed on four business model elements: offering, resources and capabilities, revenue creation logic and value proposition. Thus, the analysis reveals that projects Crimson and Magenta were overlapping with the established business model (almost all of their project level cells in Table 4 are white) whereas Yellow and Green go together with the extended business model (many project level business model elements are grey like in the extended division level business model). Project Violet had little overlap with either one of the firm-level business models (many project level cells are black).

Projects Crimson and Magenta involved the delivery of standardized equipment. The projects were overlapping with the established business model. Their business models did not

capture the development going on in Velvet's business model and therefore they were disconnected from the extended business model. Therefore, the projects were exploitative by nature and relied on the known business logic. However, Crimson included an extensive automation package which made it slightly resemble the extended business model due to a broader scope of offering and related capability creation. Internally, it was not easy to convince the staff of the usefulness of automation, though. The standardized project was seen strictly as an equipment delivery even though it had a possibility to move towards the extension model.

If standardized technology in projects Crimson and Magenta had little overlap with the extended business model, the novelty of the process offered in projects Green and Yellow did overlap with the extended model. The projects were technology packages that included (or in the case of Green will include) technologies and services in order to develop the best solution for the customer. The extended business model was realized and strengthened by developing resources and capabilities for further projects. The technological and process capabilities developed in projects Green and Yellow will be used as a basis for future projects. Indeed, as the process had not been delivered many times before, both the customers and the project staff was open about the way the project was brought into practice. The lack of experience made the projects explorative, and the lessons learned are utilized for exploitation in the future.

Finally, project Violet was mostly disconnected from the two division level business models. It was not the nature of the offering but the nature of the customer's problem that caused disconnection to the division's business models in project Violet. The customer expected a turnkey delivery, with different value proposition, resources and capabilities, value network and revenue creation logic. Even though the division aims at increasing the amount of maintenance

projects, it does not prefer to develop its business model towards turnkey besides special cases. This is not to say that project Violet was outside of the scope of Velvet and should not have been realized. Instead, there must be other reasons for the autonomous emergence of the project. However, Violet did not emerge from a vacuum. Both the established and extended division-level business model affected the project.

Based on the analysis in Table 4, three project groupings emerged. Projects Magenta and Crimson mostly related with the established business model, projects Green and Yellow mostly related with the extended business model and project Violet was disconnected from both of the firm-level business models. However, project Violet introduced a whole new way of doing business. In the future, the new emerging business model of Violet might either be signed off as a one-time case or become a new firm-level business model, incorporated in the firm's strategy. In the following section, the consequences of the results will be discussed.

DISCUSSION

The aim of this study was to describe how multiple coexisting projects are delivered in a project-based firm. Many project level business models overlapped with either of the two business model templates of the division. Loose coupling between the business model elements enabled the simultaneous delivery of different projects. Content-wise, the elements in these project level business models were not varying beyond the limits set by division level business models. However, also a new type of configuration in one project-level business model was able to emerge. Translating to venturing strategy, the project level strategies were following the two induced strategies through which new ventures were selected, in other words, senior management engaged to delivery contracts. Additionally, an autonomous strategic venture appeared; it

received management support against the odds of induced selection, and was successfully carried out. Hence, some consequent actions of management can be interpreted as attempts to “ride on” the new type of earning logic, which may evidently be part of the canon of acceptable induced strategies. Changes in the content of some business elements resulted to changes in strategies.

Our findings support recent research in project strategy in observing that PBFs use different business models both on the level of the firm level and the project as suggested by Kujala et al. (2009), Kujala et al. (2010), and Wikström et al. (2010). However, our study further examines the relationships between these multiple models to understand how the resulting interplay affects the evolution of a project-based firm and its strategy. Using the business model construct as a tool to make strategies operational, following Casadesus-Masanell & Ricart (2010), Chesbrough & Rosenbloom (2002), Linder & Cantrell (2001), Magretta (2002), Osterwalder et al. (2005), and Shafer et al. (2005), we also conclude that the PBF has several business strategies on the firm and project level. The existence of both induced strategic behavior and autonomous strategic behavior enables multiple strategies (Burgelman, 1983ab). Figure 1 illustrates as a summary our view of the process of strategic venturing in a project-based firm.

INSERT FIGURE 1 HERE

First, two induced strategies on the level of the firm represented two distinct business strategies: an established one and a newer extended one (we adopt the nomenclature of Linder & Cantrell, 2001). The established business strategy was based on equipment and the technological knowledge of the firm, whereas the extended business strategy emphasized process know-how and the overall functionality of the delivered process. The two business strategies of Velvet deployed exploitation (established strategy) and exploration (extended strategy) simultaneously

(we adopt the distinction of March, 1991). Together these induced strategies represent behavior which is guided from above by the firm's current concept of strategy as suggested by Burgelman (1983ab).

Second, the division-level business strategies have impact on the project-level business strategy. Revealed in business model analysis in Velvet, two of the case projects, Crimson and Magenta, were overlapping with the established business model whereas two projects, Yellow and Green overlapped with the extended model. Therefore, we concur with scholars who consider that firms can use projects as top-down tools for both exploration and exploitation (Brady & Davies, 2004; Lindkvist, 2008 Morris & Jamieson, 2004; Shenhar et al., 2007). However, the interrelation with either one of the division level model was not straightforward as the extended business model affected Crimson by adding an extensive automation package. In addition, the established business model affected project Yellow by causing reluctance towards automation in the beginning. Therefore, it seems that projects do not only realize the strategies of the firm but also create goals and strategies of their own and in this way have a bottom-up effect on the firm level business models: they can be used as a basis for future exploitative projects as some scholars suggest (Artto et al., 2008; Artto et al., 2009, Artto et al., 2011; Brady & Davies, 2004). The projects' influence was especially visible in the extended model as it was newer and all projects have some explorative elements in them developing the division level business model, too. Even though the projects were explorative and developed the extended business model elements, their business models were still derived from the induced corporate-level strategies (Burgelman, 1983ab), and it was Velvet's intention to improve the ability to deliver these types of projects.

Finally, the business model in project Violet overlapped poorly with either of the two division-level business models. It was a turnkey delivery that Velvet does only in “special cases” and preferably not at all. Violet represents autonomous strategic behavior in internal corporate venturing as modeled by Burgelman (1983ab). Our finding contrasts with the traditional view which holds projects as subordinates to the firm’s objectives (Morris & Jamieson, 2004; Shenhar et al., 2007). In fact, we concur with scholars who see projects as temporary, independent organizations with self-established goals and strategies (Artto et al., 2008; Artto et al., 2011). These projects deriving from autonomous strategy might be just as important for the firm’s development as the ones derived from induced strategies. Indeed, autonomous projects can influence the firm through bottom-up interactions (Brady & Davies, 2004). Due to the dominant logic (Siggelkow, 2001) and the corporate structure of a firm (Burgelman, 1983 ab), these kinds of models are easily overlooked, especially if they are in conflict with the existing models. In order to take advantage of exploitation and (unintended) exploration simultaneously, we think, that a firm should pursue to carefully manage its business models.

To sum up, induced business strategies of a project-based firm emerged from the autonomous strategic venturing of single projects. In Velvet, this was visible in the three stages of strategy evolution. First, projects Magenta and Crimson were examples of the induced, established and exploitative strategy (high margin, small scope, low risk). Second, projects Green and Yellow were examples of the induced, extended and explorative strategy (lower margin, larger scope, growth) of more recent origin. Third, project Violet exemplifies an emerging autonomous (and, naturally, explorative, in a new field, high risk) strategic venture, which, through the consequent acquisition of a construction company by Cloth, Ltd, started to shape a new, firm-level strategy, likely to turn to another pattern of induced behavior in the future. The pattern displays strategic

venturing in a project-based firm, which is isomorphic with the process model of strategic venturing by Burgelman (1983ab, 2002). We conclude that project-based firms (PBFs) use autonomous, explorative project-level strategies business venturing to create firm-level induced business models to be used for exploitation.

CONTRIBUTION

Our study contributes to existing research in several ways. First, through analyzing firm- and project-level strategies with the business model construct we have identified the mechanism how a project-based firm manages to renew its business: through autonomous strategic venturing in delivery projects. Second, our findings indicate at least one way how induced strategies of a project-based firm gradually emerge from autonomous project-level strategic ventures which are gradually internalized and become one of the induced rationalized strategies. Third, we have presented empirical evidence that the project supplies in project-based firms sometimes follow the autonomous process of strategic venturing, which complements the current view of projects being subservient to a firm as induced strategic venturing. Fourth, the study also contributes to the business model literature by providing a new wider operationalization of project- and firm-level strategies in project-based firms than is currently offered for further studies. Finally, our findings may help to build the emerging theory of a project-based firm, its earning logic and dynamics by describing the interactions of multiple coexisting, different level business models.

This study is among the first attempts to create an understanding about the business logic of project-based firm and its evolution both on theoretical and empirical level. We suggest future research on multiple levels of strategies, the resourcing of and competition between projects with

different business strategies, large projects networked across firms, balancing between autonomous and inductive ventures, and large scale longitudinal follow-ups.

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FIGURE 1

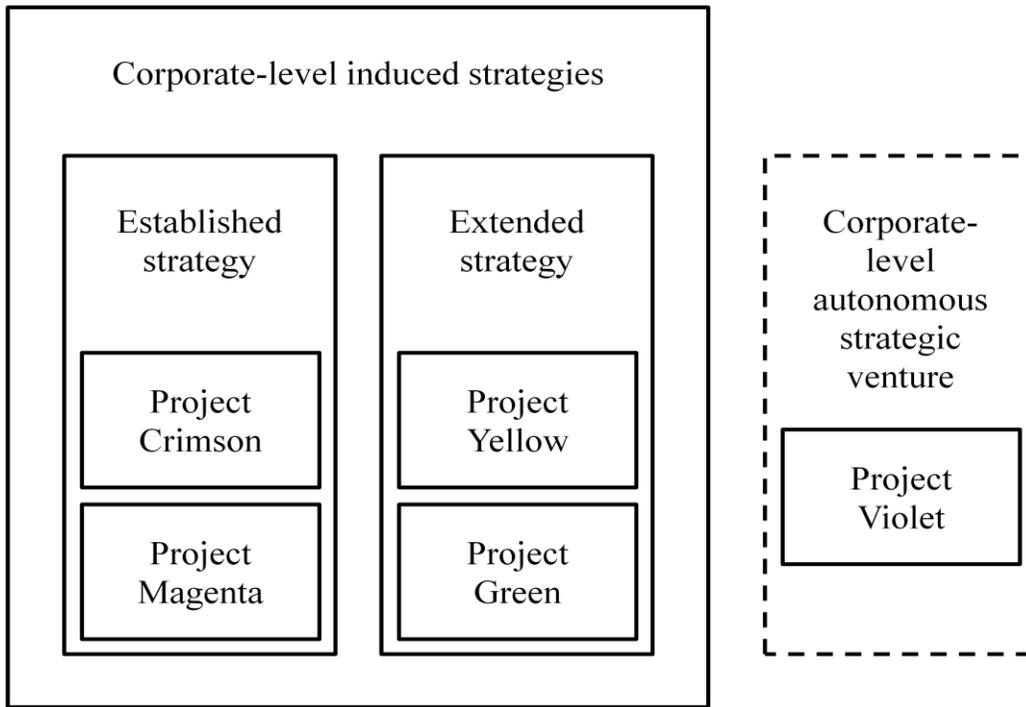


Figure 1: Strategic venturing in a project-based firm

TABLE 1

Table 1: Business model elements

	Offering	Resources and capabilities	Internal organization and activities	Revenue creation logic	Customer	Value proposition	Position in the value network	Competitive strategy
Amit & Zott (2001)	Exchanged goods and information	Resources and capabilities required to enable exchanges	Internal parties and the way they are linked	Included in exchange mechanism	Customer as a party		External parties and the way they are linked	
Chesbrough & Rosenbloom (2002)			Structure of value chain required to create and distribute the offering	Cost structure and profit potential of producing the offering given the value proposition and value chain	Market segment - users for whom the technology is useful and for what purpose	Value proposition - value created to users by offering based on technology	Position in the value network given suppliers and customers	Competitive strategy by which firm gains advantage over rivals
Hedman & Kalling (2003)	Offering (physical and service), price and cost)	Resources (human, physical, organizational)	Activities and organization		Customers		Suppliers (factor markets and production inputs)	Competitors
Magretta (2002)				How do we make money? What economic logic explains how value is delivered at an appropriate cost?	Who is the customer?	What does the customer value?		
Morris, Schindehutte and Allen (2005)	Offering - How do we create value	Internal capability - What is our source of competence?		Economic factors - How do we make money?	Market - Who do we create value for?			Competitive strategy - How do we competitively position ourselves?
Osterwalder, Pigneur & Tucci (2005)	Product - an overall view of a company's bundle of products and services.	Value configuration - of activities and resources, Core competencies necessary to execute business model	Value configuration of activities and resources	Revenue model - the way a company makes money through a variety of revenue flows	Target customer - segments of customers to which value is offered, relationship - company's links to customer segments	Value proposition - an overall view of a company's bundle of products and services	Partner network of other companies necessary to efficiently offer and commercialize value	
Shafer, Smith & Linder (2005)	Output as a strategic choice	Competencies/ capabilities as strategic choice, resources/ assets as creating value	Processes/ activities as creating value	Value capture: Revenues and profits	Customer - target market, scope - as strategic choice	Value proposition as strategic choice	Value network (from suppliers to customers)	Competitors as strategic choice

TABLE 2**Table 2: Case projects**

	Crimson	Magenta	Green	Violet	Yellow
Size	Medium	Small	Small	Medium	Large
Staff (at most)	15-20	10	45	15-20	40
Type of project	Technology package	Equipment delivery	Basic engineering	Maintenance project	Technology package
Customer segment	Industrializing	Industrializing	Industrializing	Continental	Industrializing
Duration	2 years	1 year	6 months	2 years	3 years
Situation on interview date	Delivered and accepted by client	Delivered and accepted by client - equipment uninstalled	Delivered and accepted by client - investment on-hold	Ramp-up/Handover to customer	Ramp-up/Handover to customer

TABLE 3

Table 3: Two division-level and five project-level business models

<i>Internal elements</i>							
	Division's established business model	Division's extended business model	Project Crimson	Project Magenta	Project Green	Project Violet	Project Yellow
Offering	<ul style="list-style-type: none"> •Basic engineering + equipment delivery •Separate services and automation 	<ul style="list-style-type: none"> •Basic engineering + technology package - seldom turnkey •Inclusion of services and automation 	<ul style="list-style-type: none"> •Small technology package with automation •Standard technology 	<ul style="list-style-type: none"> •Equipment delivery •Standard technology 	<ul style="list-style-type: none"> •Basic engineering •New process and technologies 	<ul style="list-style-type: none"> •Turnkey maintenance project •Standard technology 	<ul style="list-style-type: none"> •Technology package with automation and after-sales services •New process and technologies
Resources and capabilities	<ul style="list-style-type: none"> •Technological know-how and experience •Patented technologies •Project management 	<ul style="list-style-type: none"> •Process know-how and experience •Licensed processes •Patented technologies •Project management 	<ul style="list-style-type: none"> •Technological know-how and experience •Standard equipment •Project management •Lack of commitment to automation 	<ul style="list-style-type: none"> •Technological know-how and experience •Standard equipment •Project management 	<ul style="list-style-type: none"> •Project management •Lack of technological capabilities and experience 	<ul style="list-style-type: none"> •Technological know-how and experience •Lack of turnkey project capabilities •Scarce resources 	<ul style="list-style-type: none"> •Project management •Lack of technological capabilities and experience •Local office's changing role
Internal organization and activities	<ul style="list-style-type: none"> •Three product lines •Separate engineering, service and procurement •Standard project management processes 	<ul style="list-style-type: none"> •Three product lines •Separate engineering, service and procurement •Standard project management processes 	<ul style="list-style-type: none"> •Product line X, engineering and procurement •Standard project management 	<ul style="list-style-type: none"> •Product line X, engineering and procurement •Standard project management 	<ul style="list-style-type: none"> •Product line Y and engineering •Standard project management 	<ul style="list-style-type: none"> •Product line Z, engineering and procurement •Standard project management 	<ul style="list-style-type: none"> •Product line Y, engineering, procurement and service unit •Standard project management
Revenue creation logic	<ul style="list-style-type: none"> •Profits from technologies, small size 	<ul style="list-style-type: none"> •Profits from technologies and licenses, but volume from technology packages 	<ul style="list-style-type: none"> •Profit but small volume 	<ul style="list-style-type: none"> •Profit but small volume 	<ul style="list-style-type: none"> •Profit but small volume 	<ul style="list-style-type: none"> •Low profit 	<ul style="list-style-type: none"> •Profit and volume

TABLE 3

Table 3 (continued): Two division-level and five project-level business models

<i>External elements</i>							
	Division's established business model	Division's extended business model	Project Crimson	Project Magenta	Project Green	Project Violet	Project Yellow
Customers	<ul style="list-style-type: none"> •Usually known, as not many players •Preferred scope depends on project organization 	<ul style="list-style-type: none"> •Usually known, as not many players •Preferred scope depends on project organization 	<ul style="list-style-type: none"> •Known, but inflamed relations •Strong project organization 	<ul style="list-style-type: none"> •Known •Strong project organization 	<ul style="list-style-type: none"> •Known •Strong project organization 	<ul style="list-style-type: none"> •Known •Weak project organization 	<ul style="list-style-type: none"> •Known •Strong project organization
Value proposition	<ul style="list-style-type: none"> •High-end technologies •Process know-how 	<ul style="list-style-type: none"> •Process know-how •High-end technologies 	<ul style="list-style-type: none"> •Technologies •Process know-how 	<ul style="list-style-type: none"> •Technologies •Process know-how 	<ul style="list-style-type: none"> •Process know-how •Technologies 	<ul style="list-style-type: none"> •Know-how to repair existing equipment 	<ul style="list-style-type: none"> •Process know-how •Technologies
Value network	<ul style="list-style-type: none"> •Known, fixed, domestic suppliers, also global sourcing •Customer's engineering office and contractor handles installations 	<ul style="list-style-type: none"> •Known, fixed, domestic suppliers, also global sourcing •Customer's engineering office and contractor handles installations 	<ul style="list-style-type: none"> •Known suppliers •Customer's engineering office and contractor 	<ul style="list-style-type: none"> •Known suppliers •Project not proceeded to installations 	<ul style="list-style-type: none"> •Project not proceeded to execution 	<ul style="list-style-type: none"> •Both known and new suppliers •Local contractors based on customer's recommendation •Labor unions with strict requirements 	<ul style="list-style-type: none"> •Both known and new local suppliers •Customer's engineering office and contractors •Environmental authorities
Competitive strategy	<ul style="list-style-type: none"> •Technology providers as competitors •Unique scope •Customer references •Reputation •Customer relations •R&D resources lead to better know-how and technologies 	<ul style="list-style-type: none"> •Engineering offices as competitors •Unique scope •Customer references •Reputation •Customer relations •R&D resources lead to better know-how and technologies 	<ul style="list-style-type: none"> •Salesperson's relations and activity •Customer references 	<ul style="list-style-type: none"> •Superior technology •Salesperson's relations and activity •Previous relations •Customer references 	<ul style="list-style-type: none"> •Superior process and technologies •Customer references •Reputation •Previous relations 	<ul style="list-style-type: none"> •Previous relations •Reputation 	<ul style="list-style-type: none"> •Superior process and technologies •Customer references •Reputation •Previous relations

TABLE 4

Table 4: Comparison of two division-level and five project-level business models

	Crimson	Magenta	Yellow	Green	Violet
Offering					
Resources and capabilities					
Internal organization and activities					
Revenue creation logic					
Customer					
Value proposition					
Value network					
Competitive strategy					



Elements overlap with established business model



Elements overlap with extended business model



No overlap with elements in the division level business models